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ABSTRACT

Lifelong learning has emerged as a central focus of the European Union's (EU) goal of becoming a knowledge society. Lifelong learning aims to build an inclusive society, to adjust the ways in which education and training are provided, and to encourage and equip people to participate in all spheres of modern public life. Indicators of lifelong learning have been established in order to help describe the present situation of lifelong learning, quantify objectives that have been set, provide continuous updates on progress toward objectives, and provide insights into which factors contribute to achieving results. The 15 quality indicators and the 4 areas in which they are situated are as follows: (1) the skills, competencies, and attitudes area contains literacy, numeracy, new skills for the learning society, learning-to-learn skills, active citizenship skills, and cultural and social skills; (2) the access and participation area contains access to lifelong learning and participation in lifelong learning; (3) the resources for lifelong learning area contains investment in lifelong learning, educators and learning, and ICT (information and communications technology) in learning; and (4) the strategies and system development area contains strategies for lifelong learning, coherence of supply, guidance and counseling, accreditation and certification, and quality assurance. (Contains 4 annexes and 12 tables.) (MO)

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EUROPEAN COMMISSION
Directorate-General for Education and Culture

Brussels, June 2002

EUROPEAN REPORT ON QUALITY INDICATORS OF LIFELONG LEARNING

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FIFTEEN QUALITY INDICATORS

Report based on the work of the
Working Group on Quality Indicators

U.S. DEPARTMENT OF EDUCATION
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I Introduction

"People are Europe's main asset and should be the focal point of the Union's Policies" [1]

In a knowledge society education and training rank among the highest political priorities. Acquiring and continuously updating and upgrading a high level of knowledge, skills and competencies is considered a prerequisite for the personal development of all citizens and for participation in all aspects of society from active citizenship through to labour market integration. Lifelong learning has emerged as an overarching strategy for enabling citizens to meet new challenges.

The Lisbon European Council (March, 2000) set the strategic goal for Europe, of becoming, by 2010: *'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'* and furthermore, the Heads of State in their conclusions in Lisbon emphasised the central role of education and training in responding to the challenges of such an objective and invited the Ministers of Education to agree upon concrete objectives for education and training systems. On the basis of a proposal from the Commission, the Ministers of Education adopted a Report on the concrete future objectives of education and training systems in February 2001 and a Detailed work programme for its implementation in February 2002 [2].

Three overall strategic objectives, defined in these documents, will influence the development of education and training systems in Europe over the course of the next decade:

1. Improving the quality and effectiveness of education and training systems in the EU;
2. Facilitating the access of all to education and training systems and;
3. Opening-up education and training systems to the wider world.

Within these three strategic objectives, thirteen concrete objectives and a series of key issues within each one of them was defined. In order to implement these objectives, the "open method of co-ordination" is to be applied. This will entail the use of co-operation tools such as indicators, benchmarks, exchange of good practice and peer-review. The Barcelona European Council (March, 2002) endorsed the Detailed work programme on the follow-up of the objectives of education and training systems in Europe and set the following overall goal for Europe [3]:

"The European Council sets the objective to make Europe's education and training systems a world quality reference by 2010"

Lifelong learning is an overarching strategy of European co-operation in education and training policies and for the individual. The lifelong learning approach is an essential policy strategy for the development of citizenship, social cohesion, employment and for individual fulfilment.

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[1] Lisbon European Council: Presidency Conclusions, point 24

[2] Detailed work programme on the follow-up of the objective of education and training systems in Europe

[3] http://europa.eu.int/council/off/conclu/index.htm

The principal aims of lifelong learning are:

- to build an inclusive society which offers equal opportunities for access to quality learning throughout life to all people, and in which education and training provision is based first and foremost on the needs and demands of individuals,

- to adjust the ways in which education and training is provided and at the same time to ensure that people's knowledge and skills match the changing demands of jobs and occupations, workplace organisation and working methods and,

- to encourage and equip people to participate in all spheres of modern public life, especially in social and political life at all levels of the community, including at European level.

The Commission has recently adopted a Communication 'Making a European Area of Lifelong Learning a Reality'[4] which lays out a coherent strategy for implementing its objectives including the following 'building blocks':

- developing a partnership approach: all relevant actors, in and outside the formal systems, must collaborate for strategies to work 'on the ground',

- gaining insight into the needs of the learner, or the potential learner, along with learning needs of organisations, communities, wider society and the labour market,

- ensuring adequate resourcing, in terms of financing and of effective and transparent allocation of resources,

- matching learning opportunities to learners' needs and interests,

- facilitating access by developing the supply side to enable learning by anyone, anywhere, at any time,

- valuing non-formal and informal learning,

- creating a culture of learning by increasing learning opportunities, raising participation levels and stimulating demand for learning and,

- setting up mechanisms for quality assurance, evaluation and monitoring in order to ensure constant progression towards quality improvement with a view to striving for excellence on an ongoing basis.

(i) Quality of Lifelong Learning

Quality of education is a central issue in European co-operation. Article 149 of the EC Treaty states that *'the Community shall contribute to the development of quality education by encouraging co-operation between Member States and, if necessary, by*

[4] (COM (2001) 678 final)

supporting and supplementing their actions while fully respecting the responsibility of the Member States for the content of teaching and organisation of educational systems and their cultural and linguistic diversity'.

Enhancing the quality of education, training and ultimately lifelong learning is one of the main priorities of the European Union action programmes, 'Socrates' and 'Leonardo da Vinci', which are concerned with education and vocational training respectively. The Council and the European Parliament have given further emphasis to this issue by adopting, on the basis of proposals from the Commission, recommendations for the promotion of quality evaluations of school and higher education respectively[5]. The quality objective has therefore been increasingly brought to the fore in all aspects of co-operation in the field of education and training.

On the basis of this the Ministers of Education, at their meeting in Prague in June 1998, invited the Commission to establish a group of experts, nominated by Ministers, with the objective of identifying a limited number of key indicators "to assist national evaluation of systems in the area of school standards". A final 'European Report on the Quality of School Education – Sixteen Quality Indicators' was presented to the Ministers at their annual meeting in Bucharest in 2000. In Bucharest the participating Ministers invited the Commission and experts to continue this work and to extend the initiative to cover all the strands of education and training encompassed by lifelong learning.

The working group on Indicators on Quality of Lifelong Learning has been meeting regularly since January 2001. The group includes representatives from 34 European countries, the OECD and UNESCO. Various Commission services, such as Eurostat and DG EMPL, together with Cedefop and Eurydice[6] have also been represented in the group.

Early in 2001 the working group together with the Commission agreed upon a limited number of relevant indicator areas. The most appropriate indicators for each of these areas have subsequently been selected. The process of selecting indicators has reflected the complexity of the lifelong learning process itself. Lifelong learning remains an emerging area within education policy and as such its measurement and assessment methodology remains under-developed in many of the existing international, European and national surveys.

The learner-centred orientation of lifelong learning is radically different from the institution-centred approach inherent in data collection pertaining to the formal education system. The methodological and statistical aspects of lifelong learning were analysed by the Eurostat Task Force on Measuring Lifelong Learning established in February 2000. The Task Force delivered its final report in February 2001[7]. Its

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[5] Recommendation of the European Parliament and of the council of 12 February 2001on European cooperation in quality evaluation in school education (2001/166/EC).
Council Recommendation of 24 September 1998 on European cooperation in quality assurance in higher education (98/561/EC).

[6] See list working group participants in Annexe 4

[7] The public Eurostat site on Measuring lifelong learning is available at the address:
http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/measuring_lifelong
It includes among other things the report of the TFMLLL and the proceedings of the CEIES seminar held in June 2001 in Parma

recommendations were endorsed at the seminar on measuring lifelong learning in Parma, Italy, organised jointly by CEIES, Eurostat, DG EAC and ISTAT. The providers, producers and users of statistics who met in Parma agreed that numerous gaps needed to be filled and that existing data sources should be reviewed from a lifelong learning perspective.

The indicators used in the present report are drawn from existing data in order to meet the urgency of the demands for presenting and analysing internationally comparable data on this subject. Wherever a choice of indicators was available, the working group and the Commission favoured indicators which are based on the most recent data and those which are considered most reliable, comparable and politically relevant to the purpose of this report.

(ii) Definition of Lifelong Learning[8]

Definitions of lifelong learning vary according to the perspectives and priorities of policy makers at a given moment. The working group decided, at an early stage, to adopt the definition of "lifelong learning" used in other Community activities such as the Luxembourg process, in the co-ordination of employment policies and in the Memorandum on Lifelong Learning:

"Lifelong learning is seen as encompassing all purposeful learning activity, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence".

During the consultation process on the Commission's proposed strategies for lifelong learning, included in the Memorandum on lifelong learning, many comments were made on the limitations of such a definition. In particular, the need for learning activities to be undertaken on an "ongoing basis" was considered overly-restrictive of what could and should be considered as lifelong learning as was also the term 'purposeful'. Furthermore, the scope of competencies and skills was extended to include non-job-related skills. In its final Communication on 'Making a European area of lifelong learning a reality' the Commission suggested that a slightly modified definition of lifelong learning be applied:

'All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective.'

(iii) Quality Indicators of Lifelong Learning

The decision to use specific quantitative and qualitative data as 'indicators' is increasingly being taken at a high political level with a view to giving signals, to evaluate, promote dialogue and support planning in the field of education and training.

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[8] For a more detailed discussion on the definition of lifelong learning please refer to Annexe 1 'A Brief Conceptual Outline of the Lifelong Learning Paradigm'.

The role of indicators could for example be:

- to describe the present situation,
- to quantify the objectives which have been set,
- to provide continuous updates on progress towards certain objectives or,
- to provide insights into which factors might have contributed to achieving results.

The present initiative taken by the Ministers of Education, representing some 34 European countries is a clear illustration of the political importance attributed to the choice of indicators in policy fields such as the present one on "quality of lifelong learning".

The indicators identified in this report coincide with the four areas identified by the working group as relevant policy areas for quality of lifelong learning. The first area focuses on the skills, attitudes and competencies of the individual. The second area, on access and participation, describes the interaction between the individual and the system. A third area on resources for lifelong learning has its focus on system parameters and, to a lesser extent, individual parameters. 'System' issues are addressed in the final area, keeping in mind that defining lifelong learning as a 'system' is a challenge in itself.

The fifteen quality indicators are contained in the four areas (A-D) of this report.

Area A: Skills, Competencies and Attitudes

1. **Literacy**
2. **Numeracy**
3. **New Skills in the Learning Society**
4. **Learning-to-Learn Skills**
5. **Active Citizenship Cultural and Social Skills**

Area B: Access and Participation

6. **Access to Lifelong Learning**
7. **Participation in Lifelong Learning**

Area C: Resources for Lifelong Learning

8. **Investment in Lifelong Learning**
9. **Educators and Training**
10. **ICT in Learning**

Area D: Strategies and System Development

11. **Strategies of Lifelong Learning**
12. **Coherence of Supply**
13. **Counselling and Guidance**
14. **Accreditation and Certification**
15. **Quality Assurance**

II Fifteen Quality Indicators of Lifelong Learning

Fifteen Quality Indicators of
Lifelong Learning

Area A: Skills, Competencies and Attitudes

Area A : Skills Competencies and Attitudes

The working group concluded that indicators on the following skills or skill areas are relevant:

- Literacy
- Numeracy
- New Skills for the learning society
- Learning-to-learn skills
- Active citizenship, cultural and social skills
- Labour market related outcomes[9]

In a lifelong learning context, which includes formal, non-formal and informal learning, these are of fundamental value as meaningful outcome indicators. In spite of the importance of data on adults' skills however, very little large-scale research has been systematically conducted in this area. For this reason the data used are largely based on samples from the school population and especially on 15 year-olds who were the subject the PISA 2000 survey, which yields standardised and internationally comparable data. While young people are clearly an important part of the population because their attainment level gives information about their potential lifelong learning activities. The availability of such data is no substitute for cross-nationally comparable data concerning the adult population.

[9] The working group identified labour market related outcomes as a relevant indicator area but, owing to lack of data, it was not subsequently elaborated in the report.

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1. Literacy

Indicator:	**Literacy**
Definition:	**Percentage of students per country at proficiency level 1 or below on the PISA reading literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**

Ensuring that all citizens achieve an operational level of literacy and numeracy is a necessary precondition to attaining quality in lifelong learning. Along with numeracy, literacy is the key to developing all subsequent learning capabilities, as well as to employability. Developing and maintaining these skills is essential for all learning systems. Such skills facilitate participation in the wider context of lifelong learning and contribute to the social integration and personal development of individuals.

Learning, at any stage of life, is particularly dependent upon reading skills. Although written information is often complemented by oral communication most learning material is still, and will continue to be in the near future, organised in a way that requires a broad range of reading skills. The requisite reading literacy includes competencies at very different levels, ranging from simple information identification skills to more complex competencies involving interpretation, evaluation and reflection. Moreover, different textual formats such as prose, poetry, tabular and graphical presentations each require a specific kind of reading literacy.

In the context of lifelong learning it is essential for countries to have a sound knowledge of the literacy levels of the adult population and, above all, about the literacy skills of the younger generation. Beyond a mere statement of the average level of literacy in any one country, information about sub-populations at risk, i.e. those parts of a population who show particular deficits in reading skills and competencies, can be considered a specific indicator for the quality of lifelong learning.

Based on the recent results of the PISA study, statistical information on literacy for different countries will be provided below, together with one concrete indicator derived from the PISA data.

The strong focus on PISA, which concentrates on 15-years-olds, reflects the fact that literacy data on the adult population is not currently available. Data from the International Adult Literacy Survey (IALS) are perceived by some countries to be outdated, while results from the International Adult Literacy and Life Skills Survey (ALL) are not yet available.

The first table shows the reading literacy performances (European countries and selected reference countries) of the countries participating in PISA. The countries are ranked on a scale with an average score of 500 points and a standard deviation of 100 points. The standard deviation describes the degree of variability in a distribution. Approximately 68% of all cases will be found within one standard deviation of the

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mean score. Related to PISA, this means that 68% of all students who participated in the test achieved scores of between 400 and 600 points.

In Table 1 the mean scores of the countries are presented in descending order. Not all differences around the OECD average of 500 points are statistically significant. Countries who score significantly above the OECD average are in the section shaded dark grey, those significantly below average are to be found in the section shaded light grey, and the countries whose results do not significantly differ statistically from the OECD mean are located in the unshaded section. The international PISA report shows in more detail the extent to which country performances differ significantly from each other (OECD, 2001).

Table 1
Average reading literacy in European countries and selected reference countries

Finland	**546**
Canada	*534*
Australia	*528*
Ireland	**527**
Korea	*525*
United Kingdom	**523**
Japan	*522*
Sweden	**516**
Austria	**507**
Belgium	**507**
Iceland	**507**
Norway	**505**
France	**505**
United States	*504*
Denmark	**497**
Switzerland	**494**
Spain	**493**
Czech Rep.	**492**
Italy	**487**
Germany	**484**
Liechtenstein	**483**
Hungary	**480**
Poland	**479**
Greece	**474**
Portugal	**470**
Latvia	**458**
Luxembourg	**441**

Score of the Netherlands: 532 (S.E. 3.35), see footnote[10]
Source: OECD/PISA, 2001.

The data presented in this table show the performance of 15-year-olds from the countries involved in the PISA survey. If the reading literacy of the young generation is a key determinant of a successful lifelong learning system, it is apparent from this table that some countries seem to be on track better than others.

[10] The results of the Netherlands have been published only partially in the OECD PISA report, because the Netherlands did not meet the required response rate of 80%. Nevertheless the response received was representative (CITO, December 2001).

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In the context of lifelong learning it is important to differentiate between those students who attain adequate scores and those who do not. What is required of a lifelong learning quality indicator is that it enables those who are inadequately prepared for lifelong learning to be identified. An indicator, which meets this demand, can be extracted from the PISA data.

The PISA study describes students' proficiency in terms of five levels of reading literacy (OECD, 2001). Each proficiency level is associated with certain tasks which students at this proficiency level are assumed to be able to complete. Students who have reached the highest level (5) are expected to be capable "of completing sophisticated reading tasks, such as managing information that is difficult to find in unfamiliar texts" or " being able to evaluate critically and build hypotheses" (OECD, 2001). At the lowest level (1) of proficiency, students are capable of "completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text, or making a simple connection with everyday knowledge" (OECD, 2001).

The analysis of the PISA results show that a certain number of students do not reach even the lowest proficiency level (1). While performance at level 1 or below cannot be directly equated with illiteracy it is safe to assume that students at this level of attainment will experience serious difficulties when dealing with written information and thus with any learning process dependent upon written material. As the OECD suggests: "Parents, educators, and policy-makers in systems with large proportions of students performing at or below Level 1 need to recognise that significant numbers of students are not benefiting sufficiently from available educational opportunities and are failing to acquire the necessary knowledge and skills to do so effectively in their future school careers and beyond" (OECD, 2001).

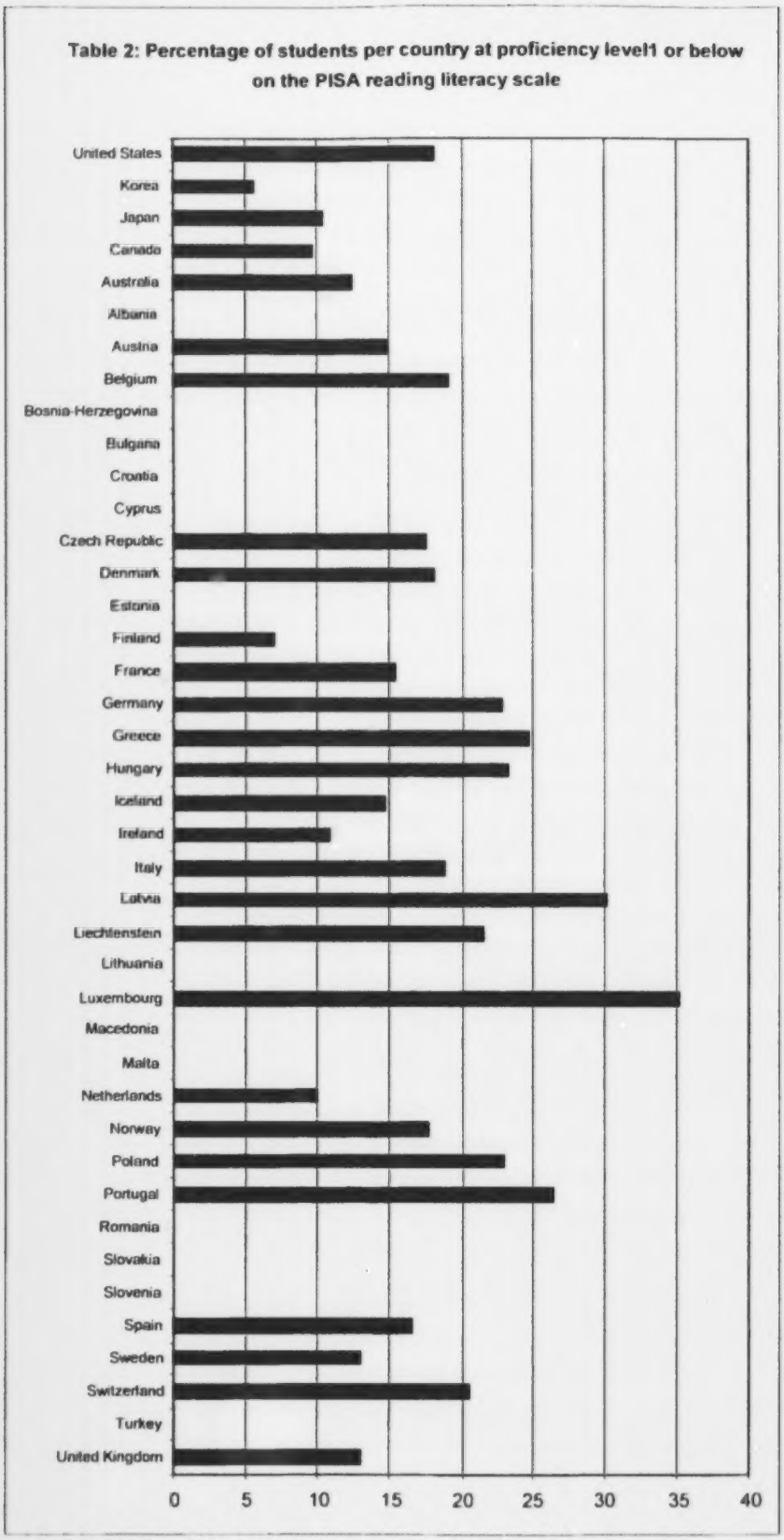
For the purpose of lifelong learning it is unnecessary to differentiate between students achieving the higher proficiency levels. While their performance at different tasks varies, all of them can be considered sufficiently well prepared for further learning opportunities – at least in so far as reading is concerned. By contrast, this may not be true for students at level 1 or below. Inadequate levels of reading literacy constitute a serious obstacle to successful participation in the lifelong learning process.

On the basis of these considerations the most central quality indicator for literacy is:

***The percentage of students per country at proficiency level 1 or below*, as derived from the PISA 2000 reading literacy scale.**

Table 2
Percentage of students per country at proficiency level 1 or below on the PISA reading literacy scale

Table 2: Percentage of students per country at proficiency level1 or below on the PISA reading literacy scale



Source: OECD/PISA, 2001.

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It is evident from this table that some countries face more challenges than others do. Even in top performing countries (according to Table 1) like Finland, Ireland or the United Kingdom a certain percentage of students will still lack the necessary skills to participate successfully in lifelong learning.

Adult Literacy

Aside from data on young people, quality indicators on lifelong learning should also include information concerning the reading literacy of the adult population. The analysis of the data from 12 OECD countries, among them 8 European countries, reveals that "low literacy is a much larger problem than previously assumed in every country surveyed. From one quarter to over one half of the adult population fail to reach the threshold level of performance considered as a suitable minimum skill level for coping with the demands of modern life and work" (OECD, 1997).

The most recent major study providing such information is the "International Adult Literacy Survey" (OECD, 1995 and 1997) which was launched in 1994 with seven countries participating. Additional countries joined the International Adult Literacy Survey (IALS) in successive waves so that in all almost 30 countries participated.

Beyond generating a mere description of the literacy skills of the adult population, IALS provides ample evidence of both the social and economic benefits of a high level of literacy. The IALS findings demonstrate a positive relationship between educational qualification and earnings, increasing labour force participation rates with increasing levels of literacy, and between literacy and voluntary community work which may serve as examples of such benefits. Similar findings have also emanated from the results of the Labour Force Surveys where the benefits are related to the educational attainment (considered to be a proxy for competence levels) of the individual.

In the past decade, IALS has been the only international study on adult literacy and many of the results of this study remain highly relevant. Nevertheless, continually updating our knowledge of adult literacy and extending our knowledge to other skill areas is of utmost importance if the European Union is to deal successfully with the challenges it is facing today.

Another ongoing study in the field of adult skills is the "International Adult Literacy and Life Skills Survey" (ALL), a joint venture between Statistics Canada and the US National Center for Education Statistics. ALL assesses the literacy, numeracy and problem-solving skills of a representative sample of adults aged 16-65 years-old within an international comparative framework. Developmental work on assessing ICT literacy and team-working skills within ALL has been initiated. Currently, only a few European countries are participating in the survey (Italy, Norway, Switzerland, Belgium, and the Netherlands). The first results of this study will be available by the end of 2003.

An interesting attempt to overcome cultural bias in comparative studies of students' reading performances has recently been made by four European countries (Bonnet et al., 2001). Based on national "indigenous test material", this European Commission funded project tried to develop both a theoretical framework and assessment

instruments which go beyond the classical standardised assessment procedures used in studies like IALS or PISA. Although the study focused on initial education, the very rationale of the approach can be extended to the assessment of adult skills as well. The results are promising, although it is quite clear that a substantial amount of further research is needed if this approach is to be fully developed.

This international experience could be used to develop the specific tools necessary to obtain harmonised data on adult skills across Europe which take into account the specific policy priorities of the European Union in this area and the cultural diversity of European societies.

2. Numeracy

Indicator:	**Numeracy**
Definition:	**Percentage of students per country below the score of 380 points on the PISA mathematical literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**

While reading literacy is a key determinant of the ability to assimilate any written information, the ability to deal with numerical information is of comparable importance in daily life and in professional environments.

The "European Report on the Quality of School Education" advocated that: *A solid grounding in mathematics belongs at the very core of the education curriculum. Analytical skills, logic skills and reasoning are all enhanced through the study of mathematics. Ensuring that all citizens achieve an operational level of numeracy is an essential precondition for quality of learning. Compulsory training of children in mathematics is therefore an important requirement for participation in society, ultimately making an indispensable contribution to national competitiveness and the knowledge society.*

As is the case with literacy, it is accepted that knowledge about both adults' numeracy and that of the younger generation are important to decision-makers and to anyone involved in the planning, design, and implementation or quality assurance of lifelong learning processes. Once again, priority is given to the situation of the young generation, as their ability to successfully progress along a lifelong learning pathway will be one of the determinants of the future economic and social well being of the European Union.

As in the case of the indicator on literacy, the recently published PISA 2000 survey is the most central source of information on numeracy. PISA defines "mathematical literacy" as follows:

"Mathematical literacy is defined in PISA as the capacity to identify, understand, and engage in mathematics, and to make well founded judgements about the role that mathematics play in an individual's current and future private life, social life with peers and relatives, and life as constructive, concerned and reflective citizen... Mathematical literacy is used here to indicate the ability to put mathematical knowledge and skills to functional use rather than just mastering them within a school curriculum" (OECD, 2001).

As was the case with reading literacy, the average score for mathematical literacy is 500 points with a standard deviation of 100 points. When compared to the OECD average (500 points), those countries scoring significantly higher than the mean performance (dark grey), those attaining significantly lower than average scores (light

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grey) and those countries whose scores do not differ significantly from the mean (unshaded) are shaded differently.

Table 3
Mathematical literacy scores in European countries and selected reference countries

Japan	*557*
Korea	*547*
Finland	**536**
Australia	*533*
Canada	*533*
Switzerland	**529**
United Kingdom	**529**
Belgium	**520**
France	**517**
Austria	**515**
Denmark	**514**
Iceland	**514**
Liechtenstein	**514**
Sweden	**510**
Ireland	**503**
Norway	**499**
Czech Republic	**498**
United States	*493*
Germany	**490**
Hungary	**488**
Spain	**476**
Poland	**470**
Latvia	**463**
Italy	**457**
Portugal	**454**
Greece	**447**
Luxembourg	**446**

(Score of the Netherlands: 564 (S.E. 4.01), see footnote [11])
Source: OECD/PISA, 2001

As a somewhat more restricted set of items was used in the first PISA cycle to measure mathematical literacy it was not possible to construct meaningful proficiency levels, similar to those used to describe levels of reading literacy, for mathematical literacy with the PISA 2000 data. However, as with reading literacy an indicator is sought which identifies those students who are well prepared for aspects of lifelong learning requiring a functional level of numeracy from those who are not.

[11] The results of the Netherlands have been published only partially in the OECD PISA report, because the Netherlands did not meet the required response rate of 80%. Nevertheless the response received was representative (CITO, December 2001).

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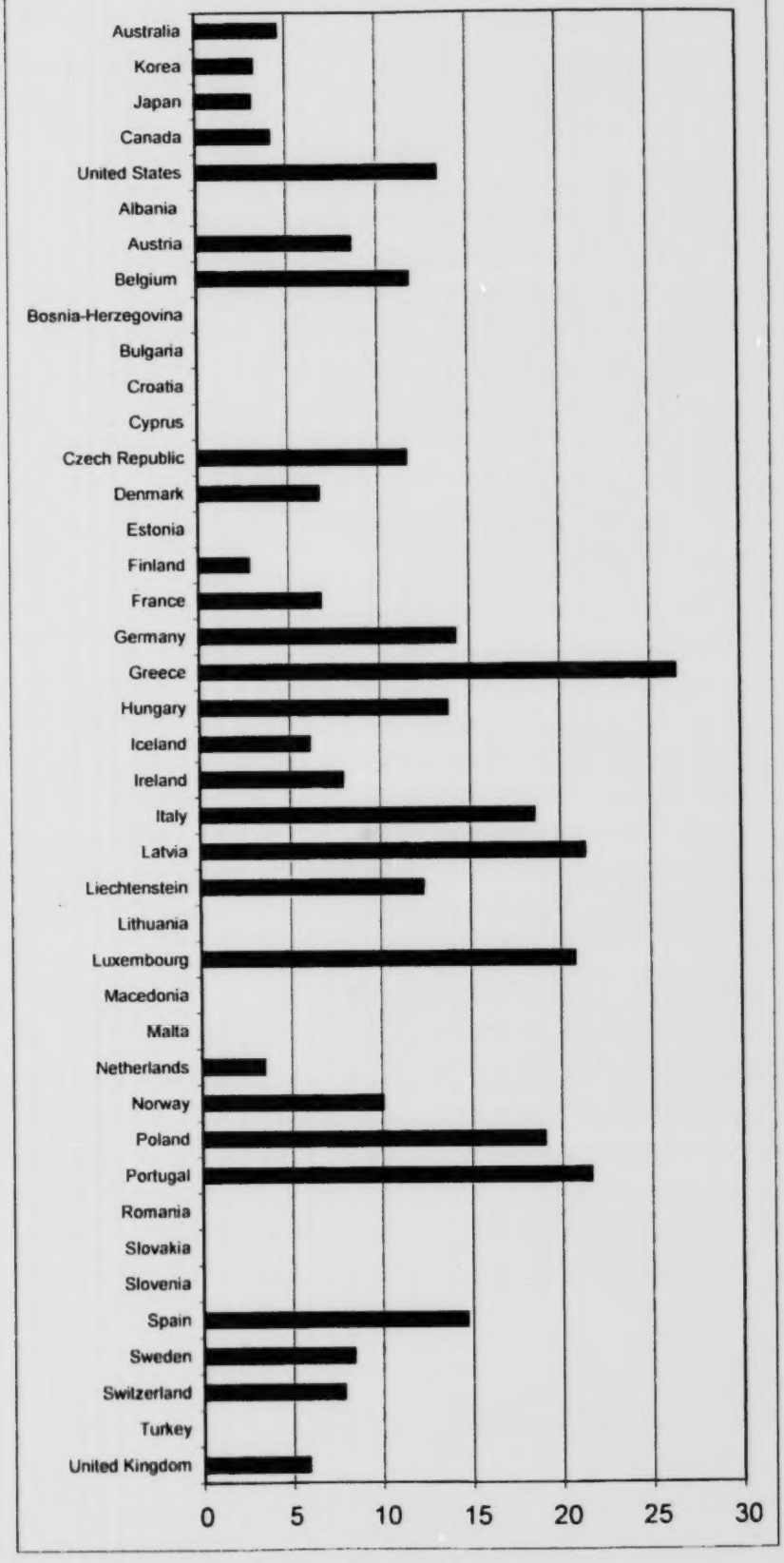
We have chosen to identify "inadequate performers" as students who score below 380 points on the PISA mathematical literacy scale. This is the score around which, according to the international PISA report, a student is considered "able to complete only a single processing step consisting of reproducing basic mathematical facts or processes, or applying simple computational skills" (OECD, 2001). Students performing below this score may be expected to struggle with lifelong learning activities involving numerical skills.

Table 4
Percentage of students per country below the score of 380 points on the PISA mathematical literacy scale

Source: OECD/PISA, 2001

Table 4: Percentage of students per country below the score of 380 points on the PISA mathematical literacy scale



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3. New Skills for the Learning Society

Indicator:	**New Skills for the Learning Society**
Definition:	**Percentage of students per country below the score of 400 points on the PISA scientific literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**

Today's learning society requires citizens to master a range of skills and competencies which have always been important, but have acquired additional priority in our contemporary world with its manifold challenges and increased opportunities for lifelong learning. The Lisbon Summit Conclusions called for a European Framework which should define the "new" basic competencies to be provided through lifelong learning, namely: IT skills, foreign languages, technological culture, entrepreneurship and social skills. These have been included in the priority areas set out in the Objectives Report submitted by the Education Council to the Stockholm European Council.

The joint work programme on the follow-up of the objectives of education and training systems in Europe makes reference to the Commission's working group on Basic Competencies. This group has suggested that the key competencies include the following principal areas, aside from a general readiness throughout life for personal efforts in the learning domain:

- *Numeracy and literacy (foundation skills)*
- *Basic competencies in mathematics, science and technology*
- *Foreign languages*
- *ICT skills and use of technology*
- *Learning to learn*
- *Social skills*
- *Entrepreneurship*
- *General Culture*

A significant problem arises from the fact that many of these skills have yet to receive adequate conceptual elaboration and clarification. As a consequence, measuring instruments capable of yielding both valid and reliable data about a person's competencies in these areas are still lacking. Furthermore, the prospect of having instruments that can be used in large-scale, comparative European surveys is even more distant. Given these methodological constraints the indicators cover only areas where cross-nationally comparable data regarded as valid and reliable are available.

Scientific Literacy

A close inspection of the requirements to attaining successful scientific thinking reveals that quite a few of the skills mentioned above relate more or less directly to the conceptual construct of "scientific literacy". Scientific and technological development is of fundamental importance to a competitive knowledge society. General and specialised scientific or technological knowledge is increasingly called

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upon in professional and daily life, in public debates and discourse, decision making and legislation.

Together, TIMMS and PISA constitute the largest body of knowledge of competency in the fields of scientific literacy, science knowledge, etc. While TIMSS is a curriculum-based evaluation of students' knowledge in the fields of mathematics and science, PISA is principally concerned with the application of mathematical and scientific knowledge in real-life settings. One further difference is evident in the organisations responsible for the two studies. TIMSS, led by the non-governmental "International Association for the Evaluation of Educational Achievement" (IEA), is at least for the moment, closer to everyday school life. By contrast, the OECD-driven PISA study has aimed at delivering policy-relevant indicators on student achievement from the very beginning.

As with reading literacy and numeracy, an indicator is defined which is based on the "scientific literacy" data found in the PISA 2000 study. The "scientific literacy" concept underlying the PISA study is summarised as follows:

"Scientific literacy relates to the ability to think scientifically in a world in which science and technology shape lives. Such literacy requires an understanding of scientific concepts as well as an ability to apply a scientific perspective. PISA defines scientific literacy as the capacity to use scientific knowledge, to identify questions, and to draw evidence based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity."

PISA is concerned with assessing the basic scientific thinking required for individuals to participate fully in all aspects of daily life and society. As in its other assessment domains, PISA scientific literacy is particularly concerned with the application of knowledge and a certain way of thinking, rather than with the mere accumulation of knowledge. It is on this basis that it has been selected as an indicator of the quality of new skills.

Table 5 provides an overview of the scientific literacy results from the countries participating in PISA. Country performances significantly above or below the OECD average of 500 points are highlighted in dark and light grey shading respectively.

Table 5
Scientific literacy scores in European countries and selected reference countries

Korea	*552*
Japan	*550*
Finland	**538**
United Kingdom	**532**
Canada	*529*
Australia	*528*
Austria	**519**
Ireland	**513**
Sweden	**512**
Czech Republic	**511**
France	**500**
Norway	**500**
United States	*499*
Hungary	**496**
Iceland	**496**
Belgium	**496**
Switzerland	**496**
Spain	**491**
Germany	**487**
Poland	**483**
Denmark	**481**
Italy	**478**
Liechtenstein	**476**
Greece	**461**
Latvia	**460**
Portugal	**459**
Luxembourg	**443**

(Score of the Netherlands: 529 (S.E. 3.61), see footnote [12])
Source: OECD/PISA, 2001

It is worth reiterating that in using data from the PISA 2000 survey it is young people, aged 15, who are the focus of the results presented.

Again, low and inadequate performers can be in danger of being insufficiently prepared for learning throughout life in a knowledge society. Low performers in the area of scientific literacy could be identified as those that have attained scores of less than 400 in the PISA scientific literacy scale.

According to the OECD PISA report, a score of approximately 400 points indicates that "students are able to recall simple factual knowledge (e.g. names, facts, terminology, simple rules) and to use common scientific knowledge in drawing or evaluating conclusions" (OECD, 2001). Students performing at the higher levels of

[12] The results of the Netherlands have been published only partially in the OECD PISA report, because the Netherlands did not meet the required response rate of 80%. Nevertheless the response received was representative (CITO, December 2001).

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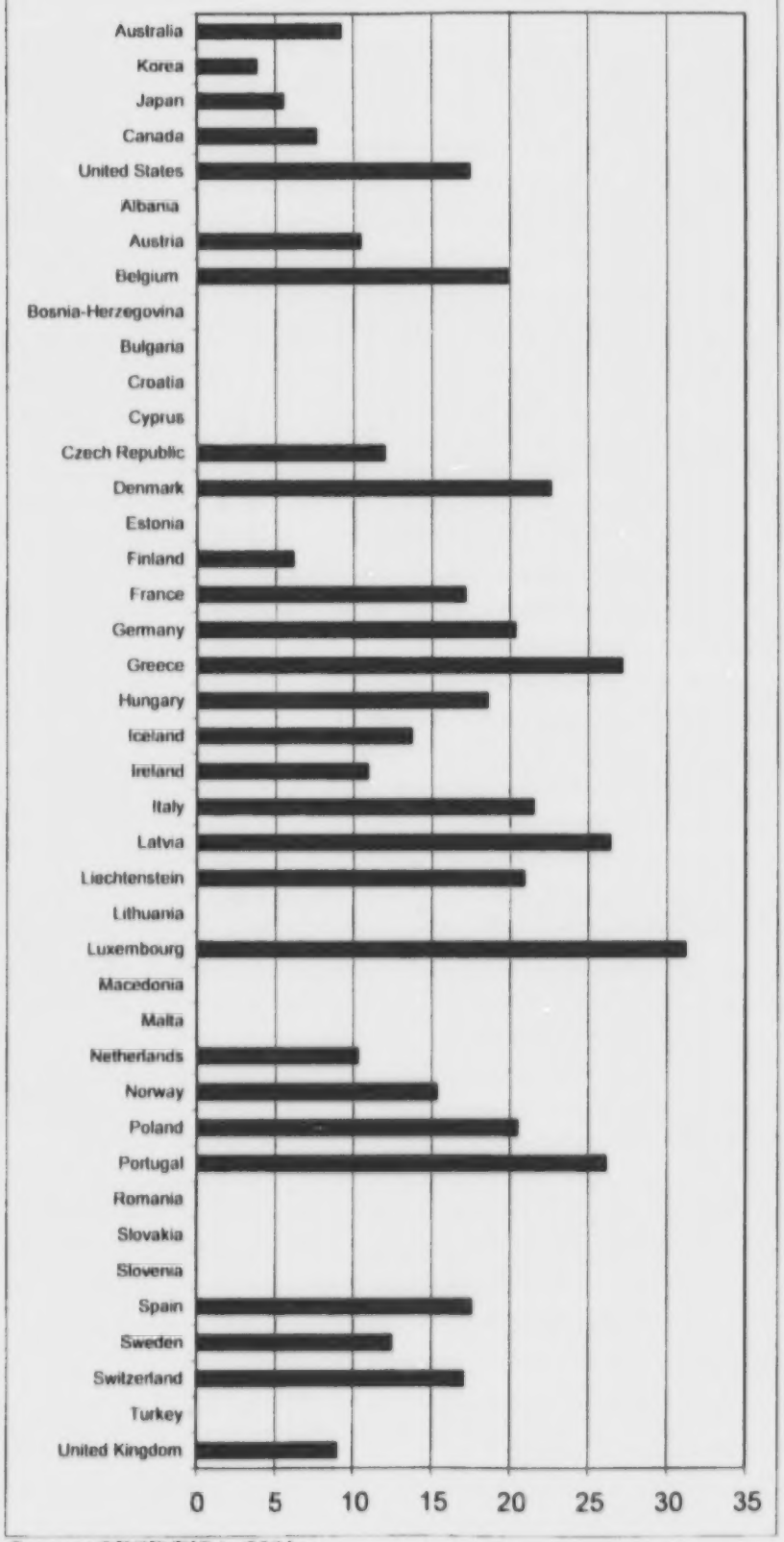
the scale "are able to use scientific concepts to make predictions or provide explanations"; they can deal with competing information, do more complex scientific reasoning or even use or create conceptual scientific models.

Students who score below 400 points cannot be expected to have the required scientific literacy, which is a basis, or at least highly beneficial, for many of the requisite "new" skills in our modern learning society, such as ICT skills, technological culture or even entrepreneurship.

Although this report focuses on the analysis of scientific literacy these statistics serve as a proxy for new skills in a learning society. Attention is focused on the identification of particular sub-populations with poor results as these indicate the people inadequately prepared for the contemporary challenges of lifelong learning. National interventions in the field of lifelong learning should carefully analyse these data, in order to focus and optimise efforts.

Table 6
Percentage of students per country with less than 400 points on the PISA scientific literacy scale

Table 6: Percentage of students per country below the score of 400 points on the PISA Scientific literacy scale



Source: OECD/PISA, 2001.

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Eurostat provides additional information on "new skills for the learning society". The number of graduates in scientific and technological subjects (per 1000 citizens) in different European countries paint very different pictures and show rather unequal distributions for men and women. Since graduates in scientific and technological subjects need to possess the required "new skills", the number of graduates in these subjects may be interpreted as an indirect indicator for the skills distribution in a given country.

Table 7
Share of tertiary graduates in science and technology per 1000 inhabitants aged 20-29, 1993-2000 in Member States and candidate countries

Table 7 (%)

	1993	1994	1995	1996	1997	1998	1999	2000
EU	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
B	9,2	(:)	(:)	(:)	(:)	(:)	(:)	9,7
DK	9,8	(:)	9,6	9,4	(:)	8,1	8,3	(:)
D	8,2	8,9	9,3	9,3	9,1	8,8	8,6	8,2
EL	3,8	(:)	(:)	(:)	(:)	(:)	(:)	(:)
E	4,4	5,1	5,8	6,6	7,6	8,0	9,6	9,9
F	14,1	(:)	(:)	(:)	17,2	18,2	(:)	(:)
IRL	19,1	21,0	21,4	21,9	21,8	22,4	(:)	23,2
I	2,9	2,8	2,9	4,1	5,0	5,1	5,6	(:)
L	(:)	(:)	(:)	(:)	(:)	1,4	(:)	1,8
NL	5,5	5,4	5,6	6,6	(:)	6,0	5,8	5,5
A	(:)	3,2	3,3	3,6	4,3	7,7	6,8	7,1
P	2,5	3,9	4,0	4,2	4,8	(:)	(:)	6,3
FIN	13,5	13,2	13,2	13,3	15,9	16,1	17,8	(:)
S	6,2	6,3	7,3	7,4	7,8	7,9	9,7	11,6
UK	12,9	13,7	13,5	14,3	14,5	15,2	15,6	16,2
IS	(:)	(:)	(:)	7,9	6,4	7,0	6,3	8,4
LI	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
NO	(:)	(:)	8,5	9,1	8,3	7,5	7,2	7,9
BG	(:)	(:)	(:)	(:)	6,0	5,5	6,5	6,6
CZ	(:)	(:)	(:)	(:)	(:)	4,6	4,0	5,5
EE	(:)	(:)	(:)	(:)	3,5	2,9	5,7	6,4
LV	(:)	(:)	(:)	(:)	6,6	5,9	6,3	7,3
LT	(:)	(:)	(:)	(:)	7,0	8,6	10,8	12,1
HU	(:)	(:)	(:)	(:)	(:)	5,0	5,1	4,5
PL	(:)	(:)	(:)	(:)	3,8	4,3	5,5	5,9
RO	(:)	(:)	(:)	(:)	2,9	4,2	4,1	4,5
SI	(:)	(:)	(:)	(:)	6,3	8,0	8,4	(:)
SK	(:)	(:)	(:)	(:)	4,9	4,3	5,1	5,3
CY	(:)	(:)	(:)	(:)	(:)	(:)	52,9	(:)
MT	(:)	(:)	(:)	(:)	(:)	(:)	1,3	3,8
AL	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
MK	(:)	(:)	(:)	(:)	(:)	3,8	3,6	(:)

Source: Eurostat, UOE and population statistics (2000)[13]

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Additional notes:

Netherlands, Poland, Romania, Albania, FYR of Macedonia: Excludes advanced research programmes (ISCED level 6)

Luxembourg: Luxembourg does not have a complete universitary system; refers only to ISCED level 5B first degree

Austria: ISCED level 5B refers to previous years except for 1998/99: ISCED level 5B is missing

Iceland: Full-time graduates only

Romania: Excludes second qualifications

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ICT Skills

Concrete information on other new skills such as ICT skills will become available in the near future. For example, the direct assessment of ICT skills is currently under development in several contexts:

1) the IEA is preparing for a large-scale assessment of ICT skills amongst school pupils,

2) the US Educational Testing Services (ETS) recently published a framework on ICT literacy. A direct skills assessment of ICT literacy, based on this framework will be developed for the "International Adult Literacy and Life Skills Survey" to be used in future rounds and,

3) the OECD "network A" on student outcomes is preparing a framework to be used in the 2006 PISA cycle.

Foreign Language Skills

The Education Council noted in February 2002 that no reliable data on the actual foreign language skills of young people are available; further work must therefore be carried out to obtain them. In the context of deliberations on 'a competitive economy based on knowledge', the Barcelona European Council of March 2002 called for further action to improve the mastery of basic competencies, in particular by teaching at least two foreign languages from a very early age: the establishment of a linguistic competence indicator in 2003.

The Council of Europe's "Common European Framework of Reference for Languages: learning, teaching, assessment" is a possible starting point for the future development of indicators in this domain because it provides common scales of language ability, based upon practical communication skills. It is gaining acceptance amongst the language testing community; for example, the Association of Language Testers in Europe (which brings together 27 language testing institutions across Europe) uses it as a way of relating the levels of the different language tests of its member organisations to a common benchmark; this kind of work may well provide a basis for developing a useful indicator of foreign language skills.

The Framework is also the basis of the Commission's DIALANG project that provides on-line diagnostic assessment of language skills in 14 European languages for five different skills within each language (reading, writing, listening, structures and vocabulary); test takers receive an assessment of their language skills expressed on the scales of the Framework, together with advice and guidance on further learning[14].

« Effectiveness of the teaching of English in the European Union » is a transnational project supported by the Socrates programme and conducted within the European network of policy makers for the evaluation of education systems which, was conducted in 1997 in France, Sweden and Spain is to be repeated in 2002. The

[14] www.DIALANG.org

European Network is repeating this project in 2003 with an additional 5 countries (Norway, Finland, Netherlands, Germany, Denmark) participating. The project involves administering a common instrument in the 8 countries to test 15/16 year olds' written comprehension, written expression and oral comprehension in the English language. As the original test has been retained, some degree of comparison over time will be possible for the three original countries. This will be the first time that comparative data on foreign language achievements will be available on so many countries in Europe.

While the above examples show how European methodology is attempting to develop other promising methodological work in the field includes the PISA survey in which foreign language reading skills (as yet only in English as a foreign language) have been provided for.

4. Learning-to-Learn Skills

Indicator:	**Learning-to-learn Skills**
Definition:	**Percentage of students per country in the lower 25% of overall performance on the PISA "elaboration strategies" index**
Data source:	**OECD: Programme on International Student Assessment, 2000**

Learning-to-learn skills were mentioned in the chapter on new skills for the learning society and were featured among the principle areas of "basic competencies". The most important of these competencies is *"the ability to learn - maintaining curiosity and interest in new developments and skills - without which lifelong learning cannot exist"*. The importance of learning-to-learn in all aspects of societal participation throughout life is well established. Learning how to learn, adapt to change and make sense of vast information flows are now generic skills that everyone should possess. Employers are increasingly demanding the ability to learn and acquire new skills rapidly and to adapt to new challenges and situations.

Learners should have at their disposal a set of meta-skills which enable them to successfully construct and shape their own learning process. While there is broad consensus regarding the role and the value of learning–to-learn skills a review of the scientific literature and the available (comparative) data tells us that the situation is far from satisfactory.

Probably the largest and best-developed research in this field is a transnational project led by Finland (with some support from the Commission under the Socrates I programme), "Learning-to-learn as part of Cross Curriculum Competencies". Finnish researchers, in close co-operation with schools and educational authorities in Finland, achieved a consensus on how to define learning-to-learn-skills, and they have also developed a large and impressive set of assessment instruments. These instruments have been extensively tested and developed over the last few years to adapt it for use with different age cohorts and reduce the volume of the battery. The test package is now available for the three levels: 6th graders (the 12 year-old age cohort); 9th graders (the 15 year-old age cohort) and; the 17+ cohort. An additional version for the 10 year-old cohort is under development. Although this commendable Finnish national effort will most probably exert a strong influence on future European and international work in this area, it cannot yet be directly used to deliver indicators at a European level. Co-operation between several European countries has been initiated to develop indicators on the basis of the Finnish experiences but has not yet been concluded.

An examination of existing data reveals the extent of the deficit in the availability of reliable data on the learning-to-learn concept at a European level. The most tangible information can once again be distilled from the PISA data. Beyond the assessment of the PISA domains of reading literacy, mathematical literacy and scientific literacy, PISA also had an option dealing with cross-curricular competencies, with a focus on

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self-regulated learning. We propose an indicator based on the students' elaboration strategies, which is based on data from the students' self-reports of their learning strategies.

The PISA index on "elaboration strategies" comprised from this information (OECD, 2001) proved to be successful in explaining variations on the PISA achievement scales.

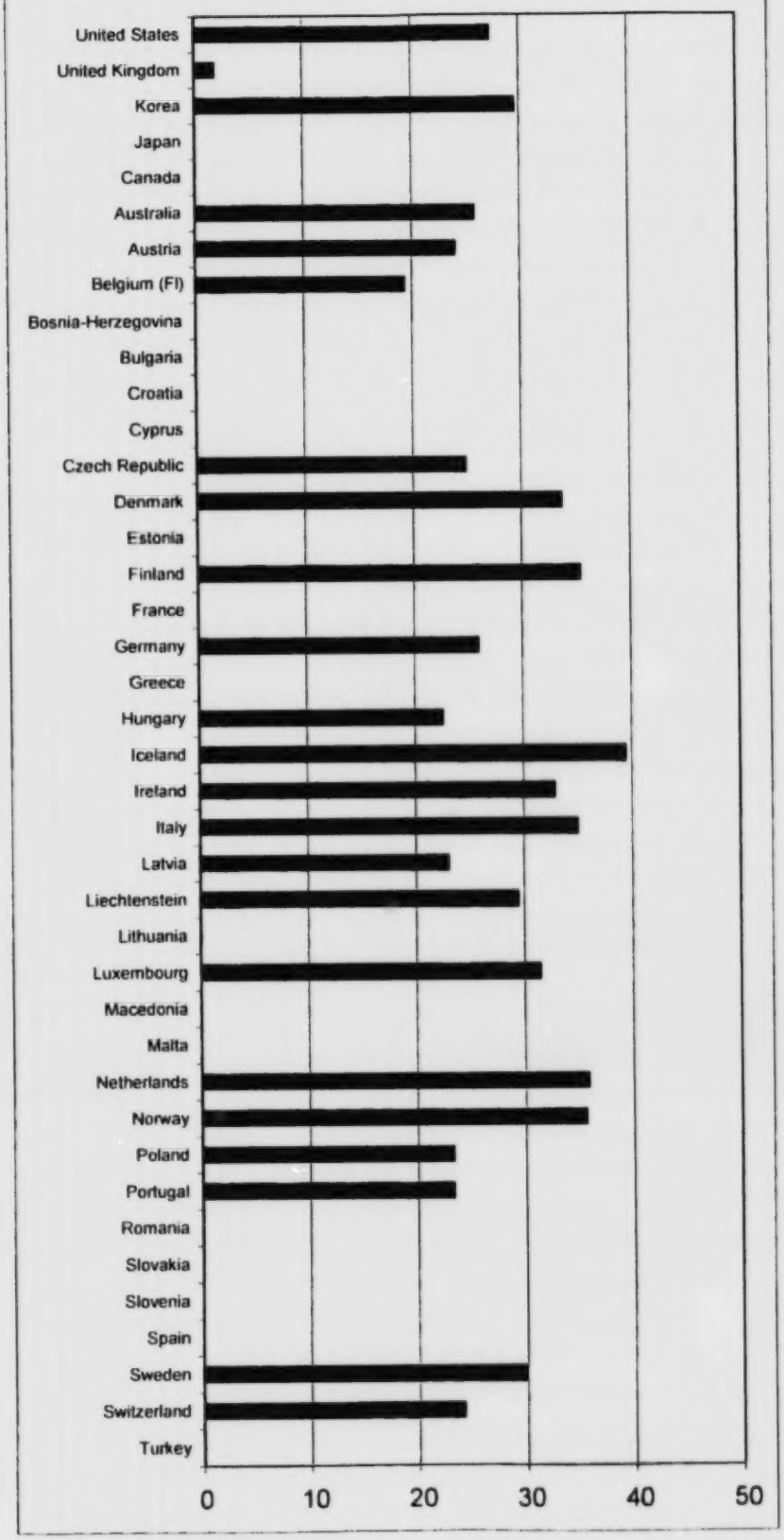
An indicator based on the elaboration index provides an adequate starting point for assessing the quality of learning-to-learn skills. An indicator based on the percentage of students scoring in the lowest 25% of overall OECD performance in elaboration strategies is proposed

Table 8

The percentage of students per country in the lower 25% of overall OECD performance in European countries and some selected reference countries on the PISA elaboration index

Source: OECD/PISA, 2001.

Table 8: Elaboration index: Percentage of students per country in the lower 25% of overall OECD performance



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When the available data is compared with the ambitions and expectations accompanying the assessment of learning-to-learn skills, it is evident that substantial progress still needs to be made in this domain.

5. Active Citizenship, Cultural and Social Skills

Indicator:	**Active Citizenship, Cultural and Social Skills**
Definition:	**Qualitative indicator on civic knowledge, civic engagement and civic attitudes across countries from the IEA study**
Data source:	**Different sources**

The promotion of active citizenship is part of the learning process. In active citizenship the focus is on whether and how people participate in all spheres of social and economic life, the opportunities and risks they face in trying to do so, and the extent to which they therefore feel that they belong to and have a fair say in the society in which they live.

Here, as with data elsewhere in the report, the subjects of the survey were young people: The IEA study on "Citizenship and Education in Twenty-Eight Countries: Civic Knowledge and Engagement at Age Fourteen".

The goal of the IEA Civic Education Study is "to identify and examine in a comparative framework the ways in which young people are prepared to undertake their role as citizens in democracies". Besides formal curricular aspects the focus is on "participation outside the school, especially in the community''. The IEA study addresses both knowledge and attitudes, and reports on a wide range of issues. In this chapter we present the results of a study results of students' civic knowledge and their ability to interpret "civic-related information".

The study framework covers three different "core international domains":
1) Democracy, Democratic Institutions and Citizenship,
2) National Identity, Regional and International Relationships and,
3) Social Cohesion and Diversity.

The focus of the study was on the first domain. For each of these domains different types of items have been developed. Items "assessing knowledge of content" and the "skills in interpretation of material with civic or political content" comprised the test battery used in the study. The scores in the table reflect performances on the two scales "civic content knowledge" and "interpretative skills". High scores correspond to a good level of knowledge or good interpretative skills. More information on the construction of the total civic knowledge scale and the two sub-scales can be found in the study report (IEA, 2001).

A quality indicator providing insight into how well the young generation is prepared for the lifelong learning process is integral to the design, running, monitoring and evaluation of lifelong learning activities. The IEA study shows clearly that many of the young students' skills and attitudes in this domain are shaped by the older generation's attitudes and behaviour, and more specifically, by their parents' attitudes

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and behaviour and as such may, to some extent, reflect the attitudes of adults as well (IEA, 2001).

The following table gives an overview of students' knowledge and interpretative skills, together with combined score for the two aspects (IEA, 2001).

Table 9
Civic knowledge and interpretative skills

	Content Knowledge	Interpretative Skills	Total Civic Knowledge
Poland	112	106	111
Finland	108	110	109
Cyprus	108	108	108
Greece	109	105	108
Hong Kong	108	104	107
United States	102	114	106
Italy	105	105	105
Slovak Republic	107	103	105
Norway	103	103	103
Czech Republic	103	102	103
Australia	99	107	102
Hungary	102	101	102
Slovenia	102	99	101
Denmark	100	100	100
Germany	99	101	100
Russian Federation	102	96	100
England	96	105	99
Sweden	97	102	99
Switzerland	96	102	98
Bulgaria	99	95	98
Portugal	97	95	96
Belgium (French)	94	96	95
Estonia	94	95	94
Lithuania	94	93	94
Romania	93	90	92
Latvia	92	92	92
Chile	89	88	88
Colombia	89	84	86

Source: IEA, 2001

The table shows interesting differences between the two aspects: content knowledge and interpretative skills.

A comparison of students from the USA and the Russian Federation may serve as an example: while both have the same scores for civic knowledge, there is a large difference between students from these two countries in terms of their interpretative skills when dealing with civic-related information. Although this result is not

necessarily surprising, given the extremely different political systems of the past, it shows how this type of information may be used to design appropriate measures.
The following table (Table 10.1 is taken directly from the IEA Civic Education Study) gives a more qualitative overview of all the aspects assessed in the IEA study:

Table 10.1 Civic Knowledge, Civic Engagement and Civic Attitudes Across Countries

Country	Civic Knowledge			Civic Engagement				Civic Attitudes and Other Concepts						
	Content knowledge (subscale)	Interpretative skills (subscale)	Total civic knowledge	Conventional citizenship	Social movement citizenship	Expected participation in political activities	Confidence in participation in school	Economy-related government responsibilities	Society-related government responsibilities	Positive attitudes toward immigrants	Positive attitudes toward one's nation	Trust in government-related institutions	Support for women's political rights	Open climate for classroom discussion
Australia		▲		▼	▼	▼		▼				▲	▲	
Belgium (French)	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼			▼
Bulgaria		▼		▲				▲		▼		▼	▼	▼
Chile	▼	▼	▼	▲	▲	▲	▲		▲	▲	▲		▼	▲
Colombia	▼	▼	▼	▲	▲	▲			▼	▲	▲			▲
Cyprus	▲	▲	▲	▲	▲	▲	▲	▲		▲	▲	▲	▲	▲
Czech Republic	▲		▲	▼	▼	▼	▼				▲	▼		▼
Denmark				▼	▼	▼	▲	▼	▼	▼	▼	▲	▲	
England	▼	▲		▼	▼	▼			▲	▼	▼		▲	
Estonia	▼	▼	▼	▼	▼				▼	▼	▼	▼	▼	▼
Finland	▲	▲	▲	▼	▼	▼	▼	▲	▲		▲		▲	
Germany				▼		▼	▼	▼	▼	▼	▼		▲	▲
Greece	▲	▲	▲	▲	▲		▲	▼	▲	▲	▲	▲		▲
Hong Kong (SAR)	▲	▲	▲		▼	▲	▼	▼	▼	▲	▼		▼	▼
Hungary	▲					▼	▼	▲	▼	▼			▼	▼
Italy	▲	▲	▲	▲	▲	▼	▼	▲	▲	▼	▼			▲
Latvia	▼	▼	▼		▼	▲	▼		▼	▼		▼	▼	▼
Lithuania	▼	▼	▼	▲	▲	▼		▲	▼	▼		▼	▼	▼
Norway	▲	▲	▲	▼	▲	▼	▲	▼		▲		▲	▲	▲
Poland	▲	▲	▲	▲		▲	▲	▲	▲	▲	▲			▲
Portugal	▼	▼	▼	▲	▲	▲	▲	▲	▲	▲	▲	▼		▼
Romania	▼	▼	▼	▲	▲	▲	▲	▲					▼	▼
Russian Federation		▼		▼			▼	▲				▼	▼	
Slovak Republic	▲	▲	▲	▲	▲	▼		▲	▲	▼	▲	▲	▼	
Slovenia	▲			▼	▼		▼			▼		▼		▼
Sweden	▼	▲		▼	▼	▼	▲	▲		▲	▼		▲	▲
Switzerland	▼			▼	▼	▼	▼	▼	▼	▼	▼	▲	▲	▲
United States		▲	▲	▲	▲	▲		▼		▲		▲	▲	▲

Source: IEA Civic Education Study, Standard Population of 14-years-olds tested in 1999.

▲ Country mean significantly higher than international mean.
▼ Country mean significantly lower than international mean.

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Out of the nine European Union countries for which data can be found in the table above, seven of them (Bfr, DK, Eng, Fin, DE, I, S) have levels of "expected participation in political activities" significantly lower than the international mean according to the survey. Similarly, it can interpreted as showing that five Member States have levels of "interpretative skills" which are significantly above the mean (Eng, FIN, GR, I, S).

A completely different type of information on citizenship is derived from participation rates in elections. While the IEA data offers information about the extent of (young) people's civic knowledge and how capable they are of adequately applying this knowledge, election participation offers a concrete behavioural measure. The following table shows participation rates in national elections for fifteen European countries from 1990 to date.

Table 11

Ranking of average turnout in the 1990's parliamentary elections in Member States

Country (no. of elections)*	Vote/Reg%
Belgium (3)	91.5%
Luxembourg (2)	87.8%
Italy (3)	85.5%
Sweden (3)	85.4%
Denmark (3)	84.3%
Austria (4)	83.8%
Germany (3)	79.9%
Greece (2)	79.7%
Spain (2)	77.6%
Netherlands (2)	76.0%
United Kingdom (2)	74.7%
France (2)	68.5%
Finland (3)	67.4%
Ireland (2)	67.3%
Portugal (3)	65.2%

*Included in the average are only those elections for which there are statistics available on the respective country page/table.

Source: The International Institute for Democracy and Electoral Assistance

It should of course be noted that participation in some countries is a civil obligation (e.g. Belgium) whereas in others it constitutes a civil right. The participation rates in parliamentary elections in European countries vary widely, as the table shows.

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Fifteen Quality Indicators of
Lifelong Learning

Area B: Access and Participation

Area B : Access and Participation

Access and participation relate to the opportunities and chances, obstacles and barriers that confront individuals along their lifelong learning pathway. While access is concerned mainly with structural and logistical questions, participation encompasses motivational issues, as well as financial and cultural ones, which must also be considered when assessing the success of a system or of a process.

While information about access and participation in formal and non-formal settings is very often available at a national level, there is a considerable need for harmonisation of the data in this field. Some promising efforts can be identified from the formal and non-formal education sectors, but the field of informal learning has thus far yielded only a very limited amount of tangible information.[15]

[15] Initiatives in this field include, for instance :
- the ad hoc module on lifelong learning to be included in the EU-Labour Force Survey
- the EU Time – use survey
- the EU Adult Education Survey planned for 2006

6. Access to Lifelong Learning

Indicator:	**Access to Lifelong Learning**
Definition:	**Not available**
Data Source:	**Not available**

Lifelong learning requires a dual approach: making what is already on offer more visible, flexible, integrated and effective on the one hand, while also developing new learning processes, products and environments on the other.

Strategies aimed at guaranteeing widespread and equal access to learning need to go far beyond legalistic notions of equality. Specific groups need to be targeted. Non-traditional forms of learning and the competencies acquired through them need to be valued and recognised. All learners also need to be able to access the formal education system at any stage of life.

The access issue lies at the core of any lifelong learning strategy. One of the most challenging policy tasks will be to create a lifelong learning environment which is open to as large a proportion of the population as possible. Once lifelong learning becomes an operational possibility for all citizens, the quality of access to learning opportunities will be an elementary indicator of the overall quality of lifelong learning in a society.

However, in society as it is at present, access to learning opportunities is limited by numerous factors. Both formal and non-formal education suffer access limitations which can usually be attributed to the institutional framework to which they belong. At an institutional level, the rationale underlying access policies of companies will differ from the political rationale of public institutions. In addition to the institutional impediments to access, factors inhibiting access to informal learning opportunities are frequently related to the learners themselves. Learners may lack the required skills (e.g. language or social skills) to make use of opportunities otherwise within reach, or they may not have the required technical equipment to access certain opportunities (e.g. the Internet). At the level of the individual access can also be hampered by a lack of information or by a lack of financial support. This brief and certainly non-exhaustive enumeration of the different facets of the access issue demonstrates why it has not been possible to identify a significant indicator on access, or even a plausible proxy, for the purpose of this report.

Potential indicators to be developed in this area should pertain to the possibility of non-traditional students accessing the formal system, to the linkages and pathways between different learning systems and routes, and to the provision of mechanisms for accreditation and certification. More attention should also be given to access indicators in the domain of non-formal education and training and to the development of meaningful indicators of access to informal learning opportunities. In all cases it is

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of crucial importance to have time series data at our disposal in order to perform effective monitoring over time.

Further work is required in order to develop and agree upon policy-relevant indicators in this field which is so central to lifelong learning.

7. Participation in Lifelong Learning

Indicator:	**Participation in Lifelong Learning**
Definition:	**Participation in education and training of those aged 25 to 64**
Data source:	**Eurostat: Labour Force Survey, 2001**

While access to lifelong learning is a necessary precondition to any learning activity, it does not necessarily follow that people will use the learning opportunities they can access. Numerous factors determine a person's decision whether or not to participate in a learning activity. From a policy perspective, it must be a major goal to increase the actual participation levels in lifelong learning. While a mere increase in the quantity of participation alone is, most probably not sufficient, high participation rates nonetheless remain a prerequisite for a high quality lifelong learning process.

When measuring participation it becomes apparent that participation in the various forms of learning is a complex issue that can only be partially explained by some existing indicators referring to time invested in learning and early school leaving rates. In this context, the examination of attitudes and patterns of participation are of paramount importance.

Participation in formal education can be directly influenced by either public or private institutions. Companies may also control participation in continuous training to a large extent. However, participation in non-formal education and informal learning activities could be encouraged by direct or indirect incentives.

At the moment there is a lack of reliable data on participation in non-formal learning and virtually no data on informal learning. We can however refer to data on participation in adult (25–64 year-olds) education and training obtained from the Labour Force Survey (LFS) and compare these data to the rates of early school leavers.

Table 12

Percentage of population, aged 25-54, participating in education and training and share of the population aged 18-24 with only lower secondary education and not in education or training[16]

Source: EUROSTAT, Labour force survey.[17]

[16] This information corresponds to the Structural Indicators *'Life-long learning (adult participation in education and training)'* and *'Early school-leavers not in further education or training'*.

[17] Due to particular socio-economic and geographical situation of Luxembourg (notably the high proportion of students enrolled in higher education outside the country and the very high percentage of non residents working in Luxembourg), the data of this indicator are not comparable with those of other countries.

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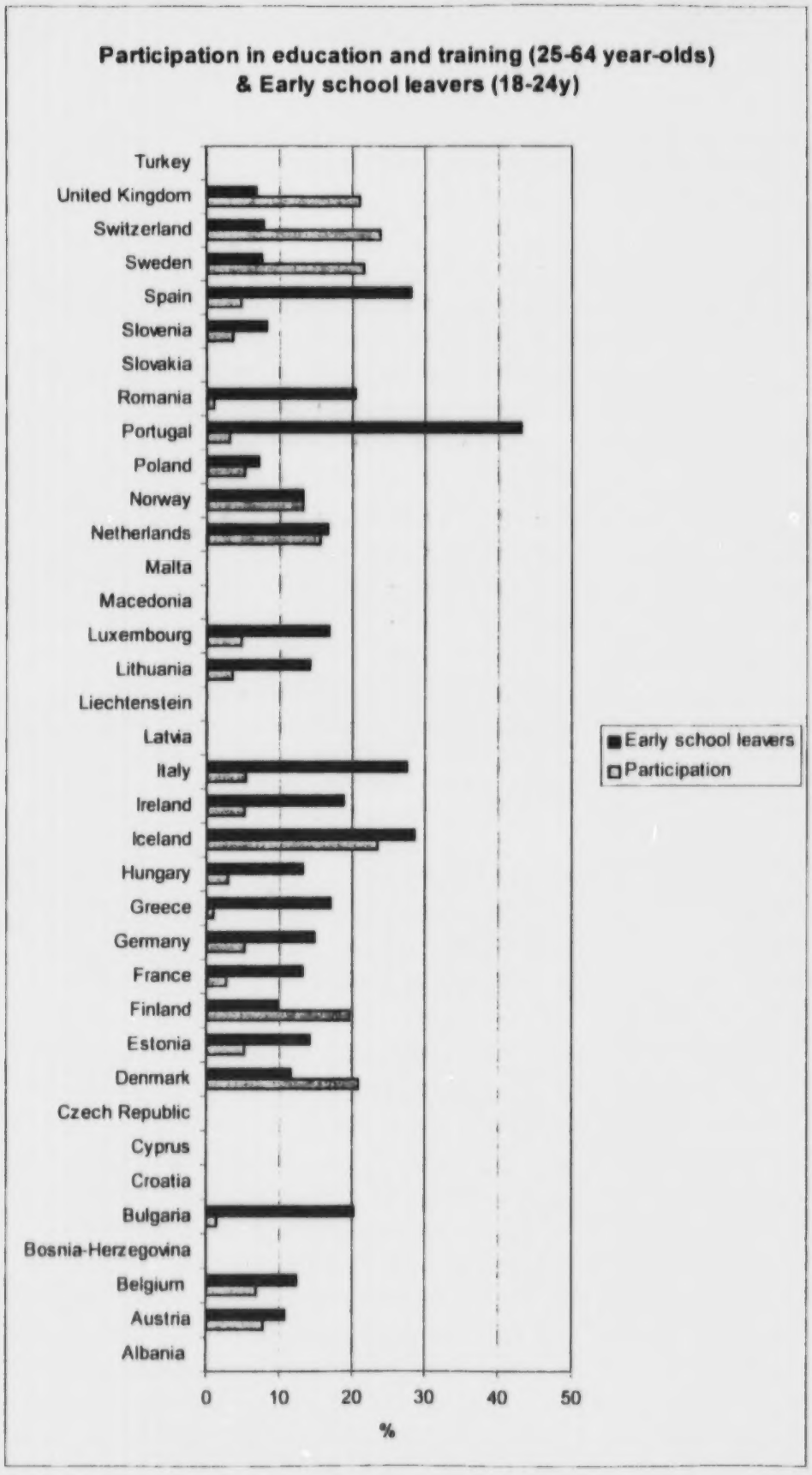
Participation in education and training (25-64 year-olds)
& Early school leavers (18-24y)
Turkey
United Kingdom
Switzerland
Sweden
Spain
Slovenia
Slovakia
Romania
Portugal
Poland
Norway
Netherlands
Malta
Macedonia
Luxembourg
Lithuania
Liechtenstein
Latvia
Italy
Ireland
Iceland
Hungary
Greece
Germany
France
Finland
Estonia
Denmark
Czech Republic
Cyprus
Croatia
Bulgaria
Bosnia-Herzegovina
Belgium
Austria
Albania
0
10
20
30
40
50
%
Early school leavers
Participation

N.B. Data from the UK on early school leavers are not considered by Eurostat to be comparable to those from other countries.

High rates of early school leavers coupled with rather low levels of participation of adults in continuing education and training should be a clear signal of the necessity to improve the quality of lifelong learning. Some countries are making significant attempts to 'counteract' high levels of early school leavers with relatively high levels of adult participation in education and training. The indicator above shows that this is clearly the case in Iceland and the Netherlands. Countries like Finland, Sweden, Denmark and Switzerland all have relatively high levels of adult participation and relatively low of drop out rates – surely a solid foundation from which to develop successful lifelong learning strategies.

Once more, it should be stressed that successful participation in adult education and training is largely dependent upon successful participation in initial education. Taken together with the fact that high educational attainment has a positive impact on employment rates, the importance of looking at education and training from a lifelong learning perspective becomes accentuated. Indeed, available evidence suggests that individuals without adequate qualifications are four times more likely to be unemployed (OECD, EAG 2001). Hence, preventing and combating unemployment and social exclusion begins with increasing the quality of education and training provision, including work-based learning.

Fifteen Quality Indicators of
Lifelong Learning

Area C: Resources for Lifelong Learning

Area C : Resources for Lifelong Learning

As in many other contexts, the quantity of resources spent on lifelong learning, and above all, the adequacy and the quality of these resources will be a critical factor in determining the success of lifelong learning. Indeed, OECD has described lifelong learning as an 'affordable investment'[19].

At present, the relationship between resources and the quality of lifelong learning remains unclear. Most models rely heavily upon experience in the field of formal education. While this is certainly a good starting point, there is a definite need for information more closely tailored to the complex field of lifelong learning, including non-formal education and informal learning.

In this area the same logic is followed as in previous ones with priority being given to existing data sources in order to begin wherever possible with quantitative indicators. Nevertheless, we retain the vision of indicators covering broad and policy relevant areas, and refer to national experiences to point to potential solutions for the whole of Europe.

In contrast with formal education in a school setting, the sources of investment important in a lifelong learning setting are much more diverse. Information and Communication Technologies must be considered from different perspectives: a systems' (e.g.: country, company) perspective, an individual, learner perspective. Finally, the mere definition of what an "educator" or "learning facilitator" alone is in the different areas of lifelong learning (formal, non-formal, informal) is a matter for considerable debate.

In this report we try to find a pragmatic solution by presenting indicators which although they do not cover in a satisfactory way, the resource areas proposed, are sufficiently concrete and meaningful to serve as a starting point for a long-term analysis of the adequacy of resources for a lifelong learning process.

---

[19] See for instance « Economics and finance of lifelong learning », OECD, 2001.

8. Investment in Lifelong Learning

Indicator:	**Investment in Lifelong Learning**
Definition:	**Total public expenditure on education as a percentage of GDP**
Data source:	**Eurostat: Structural Indicator**

The Lisbon conclusions call for a substantial annual increase in per capita investment in human resources, pointing out that the future of the European economy is largely dependent upon the skills of its citizens, and these in turn need the continuous updating which is characteristic of the knowledge society. On the other hand, the education and training sector must use financial constraints to ensure that resources are distributed and used as efficiently as possible and to achieve the highest levels of quality.

Investment in lifelong learning is a particularly complex issue. It is important to differentiate between different types of investment. At least three different types should be taken into account:

1) Public investment
2) Companies' investment
3) Private investment

Keeping in mind that this is a report on *quality* indicators of lifelong learning the question of return on investment arises immediately. A recent OECD report points to the growing evidence that learning and investment in human capital are associated not just with increased GDP, but also with greater civic participation, higher reported well-being and lower criminality (OECD, 1998).

Although a certain quantity of investment is a necessary precondition to successful learning it is known, from different sources, that a mere increase in investment alone does not necessarily increase quality. At the level of formal education, a reanalysis of the TIMSS-data (Wößmann, 2001) shows that more costly education systems do not necessarily perform better in terms of student outcomes. The PISA 2000 results also show that caution should be applied when examining the relationship between spending on, and quality of, provision. Beyond the level of investment, the timing of investment in education may also have a significant impact. From the point-of-view of private investment an empirical study by Wolter and Weber (1999), based on Swiss data, shows that an investment in education which happens too late may yield insignificant or even negative returns on investment.

This brief description already shows how difficult it will be to treat the question of investment in lifelong learning appropriately and how important it will be to have reliable data at our disposal. Consequently, caution should be exercised when interpreting investment as a quality indicator for lifelong learning. A sustainable strategy in this area should build on established descriptors and be continuously refined, above all, by linking further information to the investment information as

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well as including information on whether strategies being developed adequately incorporate investment strategies. As well as the existence and adequacy of public funding strategies, information on the existence of private funding strategies is equally important, these include the existence of incentives for employers, individuals and households to increase investment in lifelong learning. Data on private companies' and household investment are available though the data was not considered sufficiently comparable to be included here.

In this report we use an existing structural indicator, namely the total public expenditure on education as a percentage of GDP. ***Total public expenditure on education*** includes *direct public expenditure on educational institutions* as well as *public subsidies to other private entities for education* (e.g. subsidies to companies or labour market organisations that operate apprenticeship programmes). It also includes *public subsidies to households* (e.g. scholarships and loans to students for tuition fees and student living costs), including those not attributable to household payments for educational institutions, such as subsidies for student living costs (Eurostat, 2002 ; idem for more details on the methodology).

Table 13
Total public expenditure on education as a percentage of GDP

Source: Eurostat[20]

20. *EU15*: are calculated only when data for 9 or more countries are available
France: Educational expenditure figures do not include DOM (Overseas Departments).
All countries: Data for 2000 and 2001 are forecast
UK: Estimates, based on data for UK financial years which run from 1 April to 31 March
BE, DK, DE: change in coverage in 1999

*(p)[21]	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	5,68%	5,71%	5,52%	5,40%	5,44%	5,44%	5,34%	5,35%	5,23%	5,18%	5,03%
Belgium	:	:	:	:	:	:	:	5,19%	5,64%	:	:
Denmark	:	:	:	:	7,67%	8,09%	7,94%	8,22%	8,00%	:	:
Germany	:	:	:	:	4,71%	4,80%	4,73%	4,66%	:	:	:
Greece	:	:	2,66%	3,04%	2,87%	3,07%	3,44%	3,48%	3,66%	3,51%	3,52%
Spain	:	4,77%	4,89%	4,71%	4,66%	4,68%	4,54%	4,49%	4,50%	4,46%	4,45%
France	5,35%	5,59%	5,93%	5,93%	5,97%	5,95%	5,97%	5,89%	5,89%	5,83%	5,75%
Ireland	5,95%	5,97%	6,10%	6,13%	5,74%	5,92%	5,74%	5,29%	5,00%	4,78%	:
Italy	5,38%	5,39%	5,43%	5,04%	4,87%	4,86%	4,57%	4,55%	4,55%	4,62%	4,49%
Luxembourg	:	:	:	:	4,26%	4,00%	4,07%	:	:	:	:
Netherlands	5,09%	5,37%	5,17%	5,07%	5,01%	4,96%	4,79%	4,87%	4,78%	4,93%	4,91%
Austria	:	:	:	:	6,53%	6,41%	6,30%	6,28%	6,31%	:	:
Portugal	:	:	:	:	5,37%	5,53%	5,59%	5,60%	5,73%	:	:
Finland	7,26%	7,29%	6,88%	6,73%	6,87%	6,96%	6,47%	6,24%	6,19%	5,97%	:
Sweden	:	:	7,61%	7,47%	7,46%	7,62%	7,89%	7,98%	7,74%	8,39%	8,33%
United Kingdom	4,96%	5,16%	5,21%	5,16%	5,04%	4,84%	4,66%	4,58%	4,60%	4,86%	4,76%
Iceland	:	:	:	:	4,88%	5,32%	5,41%	5,98%	:	:	:
Norway	7,92%	8,02%	7,97%	7,83%	7,15%	7,00%	7,65%	7,68%	7,36%	6,60%	
Bulgaria	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	:	:	:	:	:	:	:	:	4,4 % (p)	:	:
Estonia	:	:	:	:	:	:	:	:	7,4% (p)	:	:
Latvia	:	:	:	:	:	:	:	:	6,3% (p)	:	:
Lithuania	:	:	:	:	:	:	:	:	6,5% (p)	:	:
Hungary	:	:	:	:	:	:	:	:	6,5% (p)	:	:
Poland	:	:	:	:	:	:	:	:	5,0% (p)	:	:
Romania	:	:	:	:	:	:	:	:	3,4% (p)	:	:
Slovenia	:	:	:	:	:	:	:	:	:	:	:
Slovakia	:	:	:	:	:	:	:	:	4,3% (p)	:	:
Cyprus	:	:	:	:	:	:	:	:	5,7% (p)	:	:
Malta	:	:	:	:	:	:	:	:	4,7% (p)	:	:

[21] (p) PROVISIONAL as the figures are still being validated

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This table (13) shows that levels of investment differ substantially between countries. While this indicator conveys an incomplete picture it does however reflect the financial commitment made by governments to education and training. It does not include the private expenditure of firms and households. Public expenditure can be considered as pointing to the prerequisites for successful lifelong learning. A "critical mass" in terms of investment has to be reached in order to maintain a successful lifelong learning process. It is the responsibility of countries themselves to implement the appropriate investment strategies in a way that takes into account the specificities of their own national context.

9. Educators and Learning

Indicator:	**Educators[22] and Learning**
Definition:	**Percentage of teachers having received education and training during the previous four weeks**
Data source:	**Eurostat: Labour Force Survey, 2002**

Although the role and impact of teachers in a formal education setting has been the subject of numerous studies and research projects, investigations in this area have yet to yield conclusive results. In such circumstances, it is not surprising that the discussion about the role and, related to this role, the quality of teachers, educators and other learning facilitators in a lifelong learning setting is just beginning. Most people agree that an "educator" in a lifelong learning context undertakes a more diverse array of tasks than a schoolteacher. These tasks differ depending on the type and context of learning, the age of the learner, the type and complexity of the learning task and numerous other factors. Not only do new teaching and learning methods challenge the traditional roles and responsibilities of teachers, trainers and other learning facilitators but there is also a strong need to develop their training to ensure that they are ready and motivated to face the new challenges, and to promote tolerance and democratic values.

This brief description of the situation makes it clear that it is difficult to isolate one relevant and meaningful quality indicator for educators. In order to gain an overview it is appropriate to begin with an indicator related to the initial training of educators. Availability of data limits this effort to the:

Percentage of teachers and teaching associates having received training

Participants in the Labour Force Survey (LFS) were asked whether they had received education and training during the previous four weeks. The following table (14) shows the results for "teaching professionals" or "teaching associate professionals" (as defined in ISCO-88) in member countries.

[22] 'Educator' as used in the context of this report includes teachers, trainers and other learning facilitators.

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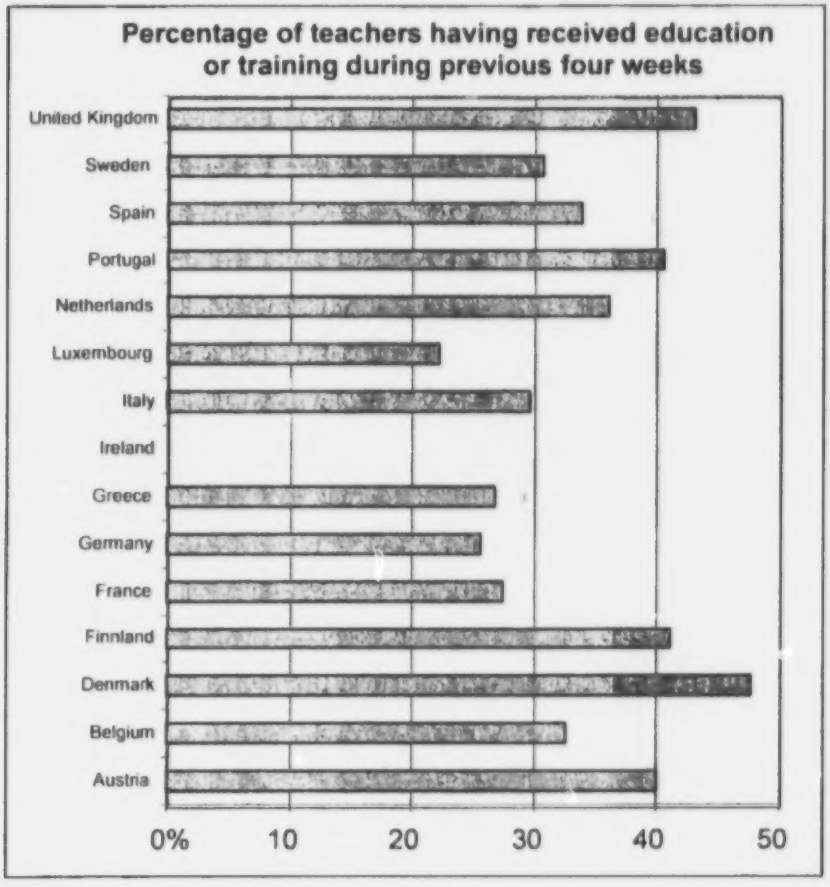
Table 14

Percentage of teachers having received education and training during the previous four weeks in Member States



The next table shows the same information for the candidate countries.

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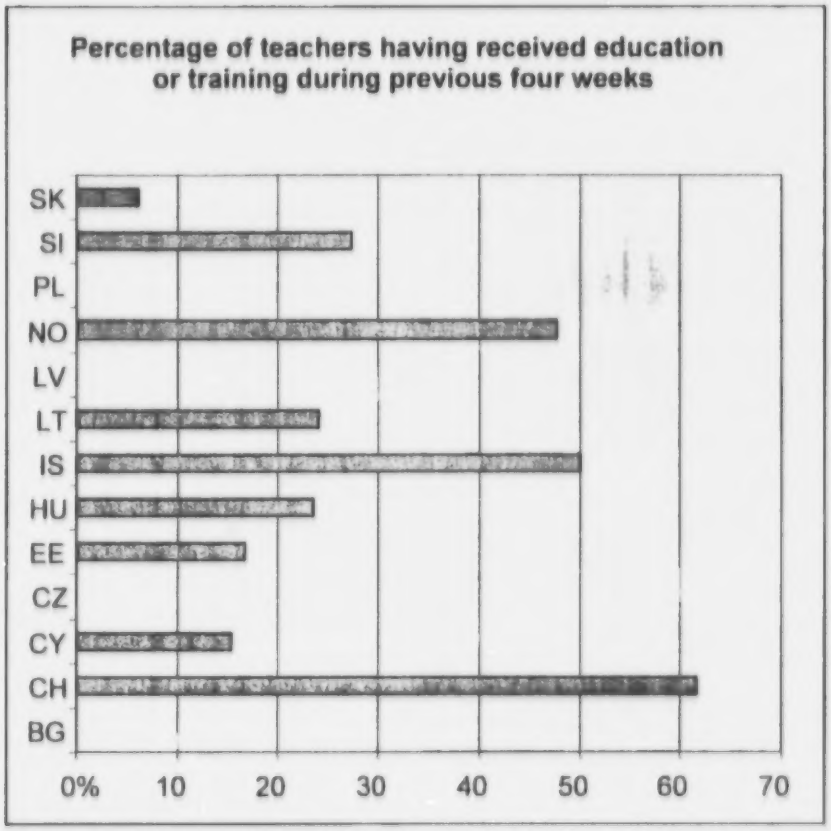
Table 15

Percentage of teachers having received education and training during the previous four weeks in candidate countries



The tables show a relatively high level of ongoing training for teachers in most countries and especially in EU member countries. It is however necessary to get more detailed information on the type and the length of the training. The LFS data also show for example, divergent trends between the different types of teaching professionals (e.g. primary vs. secondary education teaching professionals, special education teaching professionals, teaching associate professionals). Such information is certainly necessary in order to accurately plan training for educators. Moreover, information on the certification related to different types of training for educators is required. Again, this is another area where significant work on developing indicators will have to be undertaken.

10. ICT in Learning

Indicator:	**ICT in Learning**
Definition:	**Percentage of households who have Internet access**
Data source:	**Flash Eurobarometer 112, November 2001**

The report on the concrete future objectives of education and training systems states that *"the developing use of ICT within society has meant a revolution in the way schools, training institutions and other learning centres could work, as indeed it has changed the way in which very many people in Europe work. ICT is also of increasing importance in open learning environments and in virtual teaching. As far as the education and training systems are concerned, the ability to respond to the rapid development and the need to stay competitive will continue to play an important role. In addition, flexibility will be needed for individuals to acquire ICT skills throughout their lives."*

This quotation points to the multiple roles that information and communication technologies have in the context of lifelong learning. In this chapter we focus on ICT as a resource. Computers as a tool both for learning activities (e.g. courseware) and for learning assistance (word processors, spreadsheets) have a well-established place in today's education and training systems. In the context of lifelong learning another aspect becomes increasingly important. As an ever-increasing amount of information is provided through the Internet it is becoming the primary mode of delivery for learning material. Together with the ambition to bring *"learning closer to the home, to provide lifelong learning opportunities as close to learners as possible, in their own communities and supported through ICT-based facilities wherever appropriate"*, one can imagine numerous indicators describing ICT as a resource for lifelong learning:

- percentage of households with at least one computer,
- percentage of households with at least one phone line,
- percentage of households with Internet access,
- percentage of households with potential to broadband Internet access,
- percentage of school classrooms with a certain ICT equipment,

In line with the selection criteria described in the introduction we focus in this section on one indicator, the level of Internet access defined as:

Percentage of households who have Internet access

The source for this indicator is the Flash Eurobarometer survey on "Internet and the Public at Large", produced by EOS Gallup Europe upon the request of the European Commission (DG: Information Society). Data was obtained from a telephone poll involving 2000 residents in each country participating in the survey (4000 in the case of Germany).

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Table 16

Percentage of households who have Internet

Basis: All EU countries	October 2000	June 2001	November 2001
Belgium	29	35	36
Denmark	52	59	59
Germany	27	38	38
Greece	12	12	10
Spain	16	23	25
France	19	26	30
Ireland	36	46	48
Italy	24	33	34
Luxembourg	36	44	43
Netherlands	55	59	64
Austria	38	46	47
Portugal	18	23	26
Finland	44	48	50
Sweden	54	64	61
United Kingdom	41	53	49
European Union –all	28	36	38
Norway		62	58
Iceland	-	68	70

Source: Flash Eurobarometer 112, November 2001

Again, this single indicator cannot and does not fully describe the use of ICT as a resource for high quality lifelong learning in different countries. Furthermore, depending on demographic factors the role of Internet access at home may be of variable importance.

Singapore's master plan on ICT aims at a ratio of one computer, with Internet access, per two people. The major implementation strategy aims at providing these computers in libraries and community centres. While such a strategy can be expected to be successful in a small region with a high-density population, Internet access at home seems to be a must for bigger countries with a more geographically dispersed population. Thus, it will be very important to supplement this indicator with other indicators and national information.

Besides the indicator on household access to the Internet the report provides more detailed information which is also useful in the context of lifelong learning. The survey found for example, that:

- women access the Internet less often than men,
- elderly (55 and above) people appear more remote than other generations,
- access to the Internet increases sharply with level of education,
- the Internet appears to be more common in large cities, probably because technical capacities are more favourable and,

- the more affluent section of society (liberal professions and executive officers), as well as students, access the Internet more often.

In the context of lifelong learning this information clearly points out that ICT resources may be least common among those who need them most. If this is indeed the case then low levels of access to the Internet together with, for example lack of guidance, may prove to be a serious obstacle to successful lifelong learning for every citizen.

Substantial efforts have been made in the past decade to set up programs for e.g. (re-) integrating women into employment, to develop specific measures (employment, training) for the elderly and to develop specific interventions for the rural population for example. A closer look at the different programs shows that all of them contain important education and training aspects. If the population targeted by these measures suffers from a lack of Internet connection then these people might be seriously disadvantaged in a lifelong learning context. As a result concerted efforts must be made to improve the access these people have to the Internet. This is far more than a technical issue: information, education and training as well as specifically designed marketing campaigns will be necessary to overcome the problem.

Apart from underlining the need for availability of high quality ICT equipment, the detailed programme on the follow-up of the objectives of education and training systems in Europe focuses on the use of ICT and the quality of ICT teaching in particular. On this basis therefore the report presents an indicative list of three indicators:

- Percentage of teachers that have been trained in ICT use in schools,
- Percentage of pupils and students using ICT in their studies,
- Percentage of learning sessions in teaching and training institutions in which ICT is used.

These considerations are in line with the blueprint for action: "eLearning action plan"[23] which is part of the comprehensive eEurope Action Plan adopted by the Commission in June 2000 [24]. The eLearning action plan sets among other objectives to "achieve a ratio of 5-15 pupils per multimedia computer by 2004". The plan furthermore supports the availability of support services and educational resources on the Internet together with on-line learning platforms for teachers, pupils and parents as well as the integration of new learning methods based on ICT.

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[23] Communication from the Commission "eLearning Action Plan: Designing tomorrows education" COM(2001) 172 final 28.03.2001

[24] The most recent strategic document on the eEurope action plan was adopted by the Commission the 28th of June 2002. Communication from the Commission "eEurope 2005: An Information society for all" COM(2002)263 fnal 28.05.2002

Fifteen Quality Indicators
of Lifelong Learning

Area D: Strategies and System Development

Area D : Strategies and System Development

This final section is concerned with the areas of lifelong learning where political decisions (strategies) seek ways to turn the components of lifelong learning into an integrated and coherent "system" (coherence of supply). Within this framework it should be possible to assess the outcomes (quality assurance) while the individual should draw a maximum benefit from his/her learning which would be accredited and certified, and by receiving appropriate counselling and guidance.

11. Strategies for Lifelong Learning

Indicator:	**Strategies of Lifelong Learning**
Definition:	**Member States' positions on developing lifelong learning strategies**
Data source:	**European Commission: Joint Employment Report, 2001**

There exists a considerable consensus around the recognition that political strategies at local, regional and national level, aimed at ensuring the effectiveness of lifelong learning will be a key determinant of *sustainable* success in the field of lifelong learning.

Strategies must aim to develop not only a lifelong learning *system* as such, but also address issues of equality of opportunity in order to ensure that lifelong learning opportunities are genuinely available to all, especially to those at particular risk of exclusion such as people on low income, disabled people, ethnic minorities, immigrants etc.

To a certain extent the "system level" indicators in this area are those closest to political planning and decision making. It should be noted that reliable indicators to be used as a tool for decision-making remain a distant prospect at this stage. This is not surprising given that in a complex and rather new field of work, general strategic and systemic indicators will normally be the last to develop. Hence, our basic approach for selecting indicators, as applied in other areas, will to a certain extent fail when applied to this area. Consequently more qualitative information is presented in this area than in the previous chapters.

The Joint Employment Report 2001 provides an overview of the status of national strategies in the field of lifelong learning. While the lifelong learning concept used in this report is broader than the one used in the Joint Employment Report, the Report remains the best indicator of strategies. The report observes that progress has been made on *lifelong learning* with significantly higher profile being given to the issues in the 2001 National Action Plans (NAPs) and more generally, that it is now an established policy priority throughout the European Union. The report concludes that while comprehensive lifelong learning strategies are now in place in about half of the Member States, such strategies remain in the early stages of implementation. Moreover, in the majority of Member States there is still insufficient evidence of co-ordination and synergy between the Ministries concerned.

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Table 17: Member States' positions on developing lifelong learning strategies[25]

CHARACTERISTICS	BE	DK	DE	EL	ES	FR	IRL	IT	LUX	NL	AU	PT	FIN	SW	UK
COMPREHENSIVENESS OF STRATEGIES															
Compulsory education	P	A	A	P	P	A	P	A	P	A	P	P	A	A	A
Formal adult education/training	P	A	P	P	P	P	A	P	P	A	P	P	A	A	A
Workplace/other non-formal/ recognised prior learning	P	A	A	P	P	A	P	P	I	P	P	P	A	A	A
Focus on disadvantaged groups	P	P	P	A	I	P	P	I	P	P	P	P	A	A	P
Overall investment / funding schemes	P	A	P	I	P	P	P	P	P	A	P	P	P	A	P
COHERENCE OF STRATEGIES															
System development (policy needs, planning, targets, implementation, monitoring)	P	A	P	P	P	A	P	I	P	A	P	P	A	A	P
Partnership working (social partners, public authorities, learning providers, civil society)	P	P	A	I	P	P	A	P	P	P	P	P	P	A	A
Cross-cutting aspects (advice/guidance services, education/training mobility)	P	A	P	P	P	A	P	P	P	P	I	I	A	P	A

Notes:
A = Adequate. 'Adequate' denotes that a particular criterion is given appropriate priority within both the Member State's strategy and concrete actions.
P = Partial. 'Partial' indicates that some attention is given to the criterion in both the strategy and actions *or* that it given appropriate priority in one or the other.
I = Insufficient. 'Insufficient' refers to when the particular criterion is absent from both the strategy and the actions or is given some attention in one or the other.

Source: European Commission

[25] The assessment is indicative and mainly based on the NAPs 2001, but also on other relevant information available. Further explanations can be found in the Commission Services' Supporting Document to the Joint Employment Report.

Table 17 (previous page) shows that substantial effort still remains to be made with regard to disadvantaged groups. Investment strategies will also require more attention in the future. Beyond these initial matters of strategy design there remains the issue of successful strategy implementation which requires effective co-ordination between different partners and structures, encompassing the whole range of lifewide and lifelong learning 'providers', from the formal school system to liberal adult education, to vocational training and to informal settings. The table shows that most countries have to improve the involvement and co-ordination of the different partners in their lifelong learning strategies. Cross-cutting aspects in the implementation of the national strategies also need to be given more attention.

12. Coherence of Supply

Indicator: **Coherence of Supply**
Definition: **Not available**
Data source: **Not available**

When considering strategies for lifelong learning the coherence of supply becomes a central issue. By *supply* we mean the availability of lifelong-lifewide (formal/non-formal/informal) learning opportunities in a given area or country.

At least three different aspects of coherence should be considered:
a) coherence of supply in relation to the strategic goals as concretely stated in European/national/regional plans ;
b) coherence of supply in relation to (national, regional, local) providers and ;
c) coherence of supply in relation to the demand.

Very tentatively, indicators like the following ones could be suggested:

1/ Depending on the objectives in the national strategy plans, a first global indicator could be

Percentage of elements in the strategy plans matched by concrete, available supply

This indicator can be easily refined by including different quality constraints to qualify offers and be measured on European national or sub-national levels.

2/ A useful indicator on coherence of supply should also relate the supply to the demand. We propose to do this for each demand-related strategic element in the national strategy papers.

Degree of coverage of demand (formal, non-formal, informal) by national strategy plans

It is clear that indicators on the coherence of supply cannot replace a more detailed and sophisticated analysis of the supply chains in any one country or Europe-wide. Nevertheless, such an indicator could point to the most important areas to focus on in such an analysis.

Please note that one important issue has not been addressed until now: the coherence *over time* of a lifelong learning process. In our opinion, it is far too early to tackle this complex matter within the confines of this report. This does not however mean that this aspect has a lower priority. In fact, quite the opposite is case. Discussions in school education have taught us that a well thought out distribution of learning provision over time is a key factor in successful curriculum development. However, the much more varied nature of lifelong learning, the lack of sufficient research and

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the lack of consensual standards among the EU countries mean that for the moment it is not possible to focus on this dimension.

13. Counselling and Guidance

Indicator:	**Counselling and Guidance**
Definition:	**Not available**
Data source:	**Not available**

Implementing a successful lifelong learning process requires substantial counselling and guidance for citizens of all ages. Potential learners have to be informed of both the "what" and the "how", i.e. counselling and guidance has to cover at least the provision and the modes of delivery. Beyond this, a support and coaching structure for active learners could be an invaluable instrument for speeding up the learning process. Guidance and counselling would therefore, when fully developed in a lifelong learning perspective, support people in order to:

- access learning opportunities,
- motivate people to learn,
- develop individual pathways and,
- make successful transitions between the education, training and employment systems.

Quality indicators for the "counselling and guidance" domain remain to be developed. While a few countries have some information on counselling and guidance activities, it quickly becomes apparent that a common understanding of what should be included in counselling and guidance is lacking. The same is true when comparing the number and the type of counselling centres. If there is no consensus on how broad the concept of counselling and guidance should be, it will be difficult to develop indicators that guarantee comparability across Europe.

In the field of guidance and counselling the following indicators should be considered:

- Target group coverage of guidance and counselling,
- Social, economic and learning benefits from counselling and guidance,
- Qualifications of guidance and counselling practitioners,
- Frequency of in-service training of practitioners.

The Eurydice information collection gives a qualitative overview of the legal situation concerning guidance and counselling in the different countries and on the institutions that are set up to provide counselling and guidance. The participating countries have taken a wide range of educational and guidance, support and orientation initiatives in

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education at lower or upper secondary levels. Other initiatives have been set up for academic, vocational and career guidance.

Coherence between the services of information, guidance and counselling services and the availability and quality of adequate training in the field are major challenges for countries and institutions. In order support these central aspects of a lifelong learning strategy the European Commission has proposed to set up a "European Guidance Forum" in co-operation with the Member States.

14. Accreditation and Certification

Indicator:	**Accreditation and Certification**
Definition:	**Not available**
Data source:	**Not available**

One of the most significant structural aspects of lifelong learning is the issue of certification and accreditation. Ensuring that learning is visible and appropriately recognised is an integral element of the quality of the services provided by education and training systems and a core element of a successful lifelong learning process. Beyond the obvious implications for a learner's motivation, effective and transparent accreditation and certification systems are of crucial importance for any high level political planning.

The mere existence of accreditation and certification systems says nothing about their quality, transparency, or fairness and thus the comparability within Europe of a national accreditation and recognition processes. While it may be possible to cater for non-formal education within a traditional certification framework, the recognition of skills and competencies acquired in an informal learning setting must be processed through an assessment of both the learning process and the learning outcomes. Unlike in previous chapters, we have been unable to define a meaningful accreditation/certification indicator. An indicator on recognition in an informal learning setting requires information about the individual learners, their individual learning outcomes and the transformation process leading to a formal recognition of their competencies.

Some national initiatives point the way to achieving a more harmonised European approach. The Norwegian approach as well as the Scottish, Irish, French and Portuguese policies may serve as examples:

"The Norwegian authorities have at the moment an ongoing process on documentation of non-formal and informal learning. One objective is to set up a national system for the documentation and recognition of non-formal and informal learning that has legitimacy in both the workplace and the education system. Non-formal and informal learning may be acquired through work in Norway or abroad or

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through active participation in society, organisations or other voluntary activities. Such learning is accepted as equivalent to formal learning, even if it is not identical to the requirements stipulated in curricula and public examinations" (communication by the Norwegian Ministry of Education and Research).

In order to reach this goal the Norwegian authorities give particular attention to the documentation of non-formal and informal learning. *"There are ongoing projects on developing a system for documentation of non-formal and informal learning in working life. An important part of the work is to develop and establish a scheme for documenting non-formal learning attained through paid and unpaid employment, organisational involvement, organised training etc. This documentation shall have legitimacy and a user-value in relation to the workplace/the exercising of one's profession, the education system and/or organisational activities"* (communication by the Norwegian Ministry of Education and Research).

While a transparent and standardised system of documentation for non-formal and informal learning is the prerequisite for further work, it is not a sufficient condition for a successful accreditation and certification process. If such documentation is to become a reality, the assessment of the learning process and the learning outcomes has to be transparent and standardised throughout Europe. The Irish and Scottish initiatives provide an example of how to proceed at a European level.

Both initiatives focus on the assessment of qualifications/learning outcomes within an explicit framework.

The Scottish Credit and Qualifications Framework (SCQF) was introduced in 2001 to provide a framework allowing comparison of different qualifications. The framework has a scale that ranges from basic level to post-graduate level. Qualifications gained in different ways, for example, at a university/college or in the workplace are placed on the scale at specific points. Two measures are used to place qualifications on the framework. These are the levels of outcomes of learning and the volume of these outcomes. They are described in terms of SCOTCAT points, for example, 15 points at level 2" (communicated by the Scottish HM Inspector of Education).

In Ireland a new framework is under development, which *"sets out the principles and process guidelines"* which will underpin the work of the National Qualifications Authority of Ireland

"Key policy considerations under the new framework are to provide for a modular flexible system based on defined learning outcomes irrespective of the learning site and catering inclusively for both the formal and informal sectors, to ensure streamlined progression pathways to higher levels of education and training, to provide mechanisms for accreditation of prior learning and work based learning, and to provide for the recognition of learning in all its contexts: knowledge, skills and competencies within a personal, civic, social and employment related perspective" (communicated by the Irish Office of the Inspectorate Department of Education and Science).

Portugal has recently developed the 'National System for Recognising, Validating and Certifying Competencies' (RVCC System) (Decree no. 1083-A/2001 of September 5th

– Ministry of Education and Ministry of Work and Solidarity) designed to formally assess and recognise competencies and knowledge informally acquired. Open to every citizen over 18, it targets in particular people with less formal schooling and the working population, employed and unemployed alike. By formally acknowledging the competencies and know-how attained in diverse contexts over one's life experience, the RVCC System aims at promoting and facilitating individual learning and training routes within a broad lifelong learning perspective.

An example from France, *'Validation des acquis professionnels (VAP) et Validation des acquis de l'expérience (VAE)'*, shows how accreditation mechanisms can be adapted to meet the demands of lifelong learning. A recent Act of Parliament (17th January 2002) extended the possibilities, given by a previous piece of legislation, to people with work experience to enrol for a course leading to a degree or diploma (secondary or higher education level). On the basis of an examination of the candidates' previous work experience or simply of the candidates' experience, a board of examiners may award credits for the relevant qualification. Candidates are allowed to enrol for the corresponding course even if they do not possess the formal qualifications normally required. The numbers of people who benefited from this change increased by 20% between 1999 and 2000.

These national initiatives point to two crucial aspects of future European quality indicators: they will have to describe the extent to which accreditation follows transparent and standardised guidelines, and to which the actual assessment component fits a European framework of qualifications.

15. Quality Assurance

Indicator:	**Quality Assurance**
Definition:	**Not available**
Data source:	**Not available**

Quality assurance is an essential part of an effective education and training system. The techniques that enable quality to be measured are available, though not all countries have the same experience of their use in education and training. The introduction of quality assurance mechanisms requires an investment in the training of those concerned and their application leads to an increase in the quality, not only of the administration involved in delivering education and training, but also in the quality of the learning experience provided.

It is beyond the scope of this report to give a theoretical definition of the term "quality" which would be acceptable to all European countries. Nevertheless, some attributes of the concept of quality of lifelong learning are widely accepted and this will make it possible to define indicators for quality assurance in the future.

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Quality relates to values or standards that have been elaborated and agreed upon by partners who have a shared concern in the quality of lifelong learning. In the context of lifelong learning these partners are the European countries that want to share a common standard for evaluating their work in the field of lifelong learning. Although a closer look at the previous areas reveals that the areas and indicators chosen implicitly define a quality concept it seems to be to early to develop a quality assurance indicator based on this information. Indeed, the quality indicators presented in this report describe the situation from an international level, where comparability is an important aspect. The quality indicators and the whole report do not reflect the - sometimes substantial – national efforts in the domain of quality management and quality assurance. Given this situation, we limit ourselves to describing some important aspects of quality assurance that will guide a future development of quality assurance.

An established rationale for quality assurance very often looks at both the quality of the product and the process that led to this product. Following this logic, the skills and competencies indicators presented in area A could be used as quality assurance indicators at a product level. One major advantage of such an approach is that such outcome indicators reflect the impact of formal, non-formal and informal learning. It is obvious that quality assurance at a national level will often go far beyond the scope of the international indicators. National learning achievement tests and evaluations made by independent governmental or private institutions are important instruments for this type of quality assurance.

At a process level too, some of the indicators already presented can be used as process quality assurance indicators, e.g. the coherence of supply indicator, the access indicator, or to a certain extent the cost indicator. Again powerful instruments for quality assurance at a national level are at the disposal of the countries. Evaluations by independent private or governmental institutions, inspectorates and systematic in service training of teaching professionals may serve as examples of this type of quality assurance mechanism.

Finally, it should be mentioned that an efficient quality assurance system should be closely connected to the official accreditation, certification and recognition system, and that the indicators in these domains share common ground.

III Conclusions

Five Challenges to the Quality of Lifelong Learning in Europe

Five key challenges for promoting quality of lifelong learning in the future can be identified:

(i) The Skills, Competencies and Attitudes Challenge

The skills, competencies and attitudes required to participate in all spheres of life have changed. One aspect of the quality of lifelong learning is the extent to which an education and training system is successful in equipping people to negotiate the shifting demands placed upon them. Individuals should be given the opportunity to update, extend and acquire new skills so that they are better placed to meet changes in the work place and in society at large.

While the knowledge economy requires 'new' skills, the 'traditional' ones (e.g. mathematics and literacy) remain the fundamental key competencies and in fact, the greater wealth of research now available underscores their importance. It is vital that everyone has access to the opportunity to obtain a new basic profile of competencies which enhances their employability and their ability to participate in public life.

(ii) The Resource Challenge

The adoption of Lifelong Learning as a framework for structuring education and training systems carries implications for the ways in which the necessary resources are provided. Lifelong learning requires investment in equipment, physical infrastructure, educational content, teaching staff and learners' time. Nor, is the challenge of resourcing lifelong learning is simply a question of increasing investment. Arrangements for funding lifelong learning will have to reflect the complexity and diversity of the approach itself.

Lifelong learning accommodates the increasing demand for greater education and training provision both before and after compulsory schooling. At the one end of the educational process pre-school attendance is becoming more prevalent. This development is supported by widespread recognition of the importance of early childhood experiences, though the timing and mechanisms remain debated, on subsequent intellectual and social development. Investing in this critical phase in development is a long-term investment.

The growth in post-compulsory education which extends throughout someone's life takes more varied forms, vocational and non-vocational, retraining, further education, education focusing on basic skills acquisition and reflects the needs of different individuals and their particular circumstances. It is in the context of post-compulsory education that the lifewide aspect of lifelong learning comes to the fore. Individuals

should have the opportunity to learn through both their working and personal lives. This means that as well as people having different motivations for engaging in learning activities they will also undertake learning in a range of contexts, through different organisations and over varying periods of time.

Teaching, which has a significant part to play in the quality of every aspect of a lifelong learning system, is faced with a number of challenges. The first of these relates to the training of teachers, educators, trainers and other learning facilitators and for example, their ability to adapt to the growing prevalence of ICT as part of their teaching methodology or to changes in curriculum requirements. Secondly, teachers and educators will have to become adept in the application of the learner-centred orientation espoused by the lifelong learning approach. The final challenge relates to the adequacy of teacher numbers in relation to students. The issue of teaching shortages is already confronting certain countries. A failure to meet these challenges would represent a serious impediment to the drive to raise the quality of lifelong learning.

While funding from public authorities remains essential for lifelong learning this is particularly the case for certain target groups such as the unemployed and those with a very low level of education. However, new patterns of education and training allow for the possibility of developing bipartite and tripartite agreements, which enable a wider variety of financial resources to be mobilised. Innovative ways of ensuring the resources required for lifelong learning, such as individual learning accounts, are being drawn up by many Member States.

Beyond the benefits policy-makers will derive from data on lifelong learning for monitoring purposes lie more complex issues about the nature and effectiveness of provision and the need for more and better data, sensitive enough to effectively inform decision-making in these areas.

(iii) The Challenge of Social Inclusion

Lifelong learning provides an opportunity for citizens to have equitable access to individual socio-cultural development, and fulfil one's rights and duties in the democratic decision making process. Providing the opportunity for people to improve their existing skills and acquire new ones is a way to tackle social exclusion and promote equal opportunities in the widest sense.

Given the potential of lifelong learning in this respect it is vitally important that the lifelong learning process does not reinforce existing divisions and inequality through unequal access and participation. In order for education and training systems to contribute to the creation of an inclusive society it is necessary to ensure that barriers to participation are identified and dismantled. Within this context, specific regard has to be paid to the obstacles faced by vulnerable groups and people with special educational needs. If individuals are unable, for whatever reason, to access the education they are aiming for, the capacity of lifelong learning to act as a change agent for the transformation of our society, will be severely limited from the very beginning.

(iv) The Challenge of Change

Lifelong learning needs to be developed as a coherent whole if it is to achieve its potential. Education and training systems must undergo structural and procedural changes at the systemic level in order to successfully adapt to a lifelong learning approach. It is the responsibility of each Member State to develop a political strategy for the implementation of lifelong learning on a national scale in a way which goes beyond what is currently in place and ensures that there is added emphasis on the development of individual capabilities and personal learning competencies. These national strategies will have to respond to the demands of local and regional government, the labour market, public and private organisations providing education and training as well as individual citizens.

Recognition of knowledge, skills and competencies acquired in a variety of settings should be achieved through the improvement of accreditation and certification procedures. Acknowledging that learning has taken place helps to create an environment in which individuals feel their learning activities to be of value and creating clarity promotes the mobility of labour. In recognising forms of learning other than formal education the quality of lifelong learning faces the challenge of de-institutionalisation. Accreditation will be given for learning conducted in a greater array of institutions, in a wider variety of subjects than ever before and to diverse sub-populations. While such variety is well suited to meeting the needs of the individual it intensifies the complexity of the task of monitoring the quality of the learning process provided.

In order for people to be able to derive maximum benefit from lifelong learning they must be informed of the possibilities, their options and the potential effects on their circumstances. As such, an effective lifelong learning system should also provide guidance and counselling to users in order to see their effective transition between different parts of the lifelong learning system and working life.

(v) The Challenge of Data and Comparability

In its reply to the Parma seminar on measuring lifelong learning Eurostat accurately describes the situation we are in as "between the primitive and complicated phases of the process of developing statistics for measuring lifelong learning".

The following are reflections outline some of the challenges in measuring (quality) of lifelong learning.

1) Policy-makers should define policy needs. Data transform into indicators when they are related to political considerations and by incorporating them in a decision-making context.

2) In the complicated transition phase we are in right now, one of the biggest challenges is to "make best use of existing sources", that should be looked at from different angles and perspectives. This rationale is at the very basis of this report.

3) This short-term approach should not conceal the urgent need for substantial conceptual and development work. The development of new classification schemata, the operational definition of new skills and the development of related assessment methods, the broadening of the scope to informal learning aspects and the shift of data to a regional and sub-regional level are only a few of the challenges we are facing and where we have to find solutions.

4) One overarching challenge of the highest importance is the transformation of a traditional approach to a more individual-centred view. The Eurostat driven EU Adult Education Survey, tentatively planned for 2006, is a promising enterprise to deal with this challenge.

5) Finally, finding efficient solutions for gathering comparable data while at the same time respecting the subsidiary principle will also be one of the most challenging steps of future work.

The report illustrates many of the problems we encounter in the domain of measuring lifelong learning. Beyond the conceptual shortcomings of some of the indicators presented here, a brief look at the availability of data in the different countries uncovers a further problem. Many countries do not have the data or at least they are not available in a harmonised way. Not to be misunderstood: The ambition of this report is definitely not to « force » countries to implement all the indicators mentioned in the table. There may be very good reasons for a country not to implement one or more indicators: resource limitations, availability of better national instruments, political sensitivity, etc. Nevertheless, if this effort of defining quality indicators of lifelong learning is to be taken seriously, then a certain level of coverage should be reached within the countries.

The following table (18) is a checklist showing for which indicators internationally comparable data exist in each country. Blank cells in the table do not mean that a country is not making any effort in this domain, sometimes very substantial national efforts exist.

Table 18
Presence/Absence of comparable data related to quality indicators of lifelong learning for the participating countries

Country	Indicator (see below for list of indicators)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Albania	-	-	-	-	-		-	-	-	-	-				
Austria	x	x	x	x	-		x	x	x	x	x				
Belgium	x	x	x	x	x		x	x	x	x	x				
Bosnia-Herzegovina	-	-	-	-	-		-	-	-	-	-				
Bulgaria	-	-	-	-	x		x	-	-	-	-				
Croatia	-	-	-	-	-		-	-	-	-	-				
Cyprus	-	-	-	-	x		-	-	x	-	-				
Czech Republic	x	x	x	x	x		-	x	-	-	-				
Denmark	x	x	x	x	x		x	x	x	x	x				
Estonia	-	-	-	-	x		x	x	x	-	-				
Finland	x	x	x	x	x		x	x	x	x	x				
France	x	x	x	-	-		x	x	x	x	x				
Germany	x	x	x	x	x		x	x	x	x	x				
Greece	x	x	x	-	x		x	x	x	x	x				
Hungary	x	x	x	x	x		x	x	x	-	-				
Iceland	x	x	x	x	-		x	x	x	x	-				
Ireland	x	x	x	x	-		x	x	?	x	x				
Italy	x	x	x	x	x		x	x	x	x	x				
Latvia	x	x	x	x	x		-	x	-	-	-				
Liechtenstein	x	x	x	x	-		-	-	-	-	-				
Lithuania	-	-	-	-	x		x	x	x	-	-				
Luxembourg	x	x	x	x	-		x	x	x	x	x				
Macedonia	-	-	-	-	-		-	-	-	-	-				
Malta	-	-	-	-	-		-	-	-	-	-				
Netherlands	x[1]	x[1]	x[1]	x	-		x	x	x	x	x				
Norway	x	x	x	x	x		x	x	x	x	-				
Poland	x	x	x	x	x		x	x	-	-	-				
Portugal	x	x	x	x	x		x	x	x	x	x				
Romania	-	-	-	-	x		x	x	-	-	-				
Slovakia	-	-	-	-	x		-	x	x	-	-				
Slovenia	-	-	-	-	x		x	x	x	-	-				
Spain	x	x	x	-	-		x	x	x	x	x				
Sweden	x	x	x	x	x		x	x	x	x	x				
United Kingdom	x	x	x	x	x		x	x	x	x	x				
Turkey	-	-	-	-	-		-	-	-	-	-				

1: Literacy
2: Numeracy
3: New Skills for the Learning Society
4: Learning-to-Learn Skills
5: Active Citizenship, Cultural and Social Skills
6: Access to Lifelong Learning
7: Participation in Lifelong Learning
8: Investment in Lifelong Learning
9: Educators and Learning
10: ICT in Learning
11: Strategies for Lifelong Learning
12: Coherence of Supply
13: Guidance and Counselling
14: Accreditation and Certification
15: Quality Assurance

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From Table 18 it is possible to distinguish two groups of countries:

1) those who have a very good coverage, i.e. generally only very few indicators are missing for these countries and,
2) a few countries which have not implemented any of these indicators or only very few.

As four of the skill indicators are based on PISA data, those countries that did not participate in PISA are clearly disadvantaged in this table. The table also shows that some of the candidate countries, with a good coverage of skill indicators, are lacking data in other domains. This often reflects the transition phase these countries are in, and sometimes the data have already been collected, but not yet submitted or validated. The situation in those countries that do not have any or only very few indicators should be carefully analysed. The situation might reflect strong national efforts, which are not comparable with the international indicators described in this report, or alternatively, the lack of indicators may point to a more substantial problem in the domain of statistical information.

V Annexes

Annexe 1

A Brief Conceptual Outline of the Lifelong Learning Paradigm[26]

The enormous speed with which knowledge develops and ages today underlines at least two points:

- Learning must be conceptualised as a permanent process which starts at birth and continues throughout life;
- Reflecting its diversity and complexity, learning needs to be understood in a wide societal and personal sense, beyond the context of job-related training.

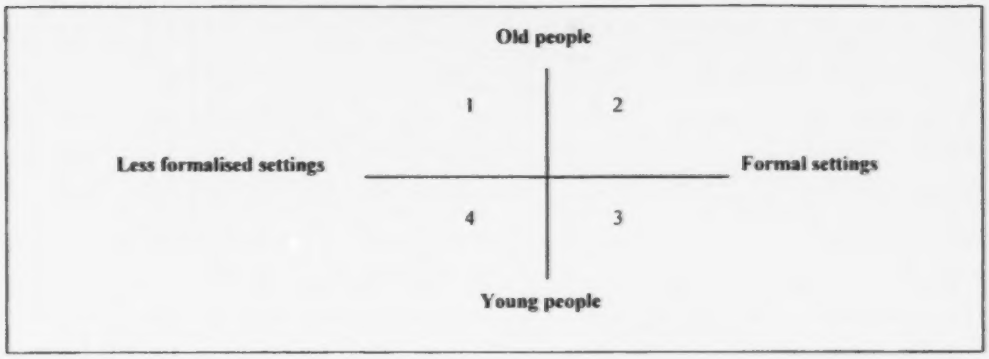
As a result, learning cannot be characterised as a limited phase in childhood and youth dedicated only to the promotion of the individual's vocational career. Rather, learning is a continuous task of the society and the individual that extends to all areas and phases of life. The perspective of learning "from cradle to grave" is a fundamental element in most approaches to lifelong learning.

Lifelong learning, however, is not just a simple summing-up or integration of traditional education programmes and modern learning opportunities. Instead, the approach to lifelong learning includes fundamental differences in educational content and perspectives: While traditional educational institutions have been (and still are) primarily concerned with transmitting knowledge, modern learning opportunities and the lifelong learning approach put the emphasis on the development of individual capabilities and personal learning competencies. At the heart of the lifelong learning concept is the idea of enabling and encouraging people "to learn how to learn".

In the past the **time**-dimension has often dominated the discussion about lifelong learning. It underlines the fact that learning activities occur in different phases over the lifecycle. However, there is also a **lifewide** dimension to be recognised, which is of growing importance today. It takes into account that learning increasingly takes place in a multitude of settings and situations in real life:

[26] This section is taken mainly from Walter Horner : Towards a statistical framework for monitoring progress towards lifelong learning, in : OECD (ed) : The INES Compendium – Contributions from the Technical Group, Paper prepared for the INES General Assemby, Tokyo, 11-13 September 2000.

Figure 1: The 'lifelong-lifewide framework'



With respect to the time dimension of lifelong learning (vertical axis) the sequence of different learning processes within the life cycle is of primary concern (*lifelong learning* in a narrow sense). The lifewide dimension (horizontal axis) refers to the different social settings in which learning takes place (*lifewide learning*).[27]

The more traditional educational processes have been institutionalised (e.g., within formal education) and mostly embedded in a more or less strictly organised time schedule (e.g., within compulsory education). Others might be used flexibly in different phases of life by the individuals according to their own occupational status or situation at the workplace or according to their personal interest and motivation (e.g., within informal learning). The 'lifelong-lifewide framework' has now been widely accepted.[28]

In order to determine the specific learning situations that should be covered by a statistical framework on lifelong learning, it is important to differentiate between education and learning: The International Standard Classification of Education (ISCED) defines **education** as follows: "...the term education is [..] taken to comprise all deliberate and systematic activities designed to meet learning needs." (ISCED '97, Paragraph 7). Education consists of two sub-fields: formal and non-formal education. By contrast, **learning** is characterised from the perspective of the individual as "...any improvement in behaviour, information, knowledge, understanding, attitude, values or skills." (ISCED, Paragraph 9).

The activities to be covered therefore comprise three main areas: formal and non-formal education as well as informal learning:

- **Formal education**: According to ISCED formal education refers to "...the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous 'ladder' of full-time education for children and young people, generally beginning at age five to seven and continuing up to 20 or 25 years old." (UNESCO 1997, p. 41). In some countries, however, these age limits need to be extended.

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27 Cf. Faure (1972), Husén (1974).

28 Cf. OECD Ad-hoc Group on Lifelong Learning (1999), Chapter 4.

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- **Non-formal education** comprises "any organised and sustained educational activities that do not correspond exactly to the above definition of formal education. Non-formal education may therefore take place both within and outside educational institutions, and cater to persons of all ages." (UNESCO 1997, p. 41).

- **Informal learning** consists of all intended learning activities and/or situations that cannot be classified as formal or non-formal education. Informal learning activities are characterised by a relatively low level of organisation and may take place at the individual level (e.g., self-directed learning) as well as in groups of people (e.g., at the workplace or within the family). Some of these settings, such as computer based learning modules or other structured learning material may to a large extent be similar to non-formal programmes while others, such as learning within the family or by visiting cultural events, can hardly be captured statistically.

Formal educational programmes (compulsory and post-compulsory regular education) are already well documented in traditional education statistics. The development of a statistical approach of lifelong learning should therefore have an emphasis on the remaining fields of learning, which are not sufficiently represented in present education statistics.

A comprehensive enumeration of learning activities is a prerequisite for any meaningful statistical mapping of LLL. Approaches at different levels have been provided by the Eurostat Task Force Measuring Lifelong Learning and - very recently - in the context of a Eurostat project on a "Harmonised List of Learning Activities" (HaLLA).

Annexe 2

Extended Information on Quality Indicators of Lifelong Learning and other Data used

Quality Indicator Number 1

Indicator:	**Literacy**
Definition:	**Percentage of students per country at proficiency level 1 or below on the PISA reading literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**
Related information:	**Average reading literacy (PISA)**

Quality Indicator Number 2

Indicator:	**Numeracy**
Definition:	**Percentage of students per country below the score of 380 points on the PISA mathematical literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**
Related information:	**Average mathematical literacy (PISA)**

Quality Indicator Number 3

Indicator:	**New Skills for the Learning Society**
Definition:	**Percentage of students per country below the score of 400 points on the PISA scientific literacy scale**
Data source:	**OECD: Programme on International Student Assessment, 2000**
Related information:	**Average scientific literacy (PISA), Share of tertiary graduates in science and technology per 1000 inhabitants aged 20-29, 1993-2000 in Member States and candidate countries**

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Quality Indicator Number 4

Indicator:	**Learning-to-learn Skills**
Definition:	**Percentage of students per country in the lower 25% of overall performance on the PISA "elaboration strategies" index**
Data source:	**OECD: Programme on International Student Assessment, 2000**

Quality Indicator Number 5

Indicator:	**Active Citizenship, Cultural and Social Skills**
Definition:	**qualitative**
Data source:	**different sources**
Related information:	**Civic knowledge and interpretative skills (IEA), Civic knowledge, civic engagement and civic attitudes across countries (IEA)**

Quality Indicator Number 6

Indicator:	**Access to Lifelong Learning**

Quality Indicator Number 7

Indicator:	**Participation in Lifelong Learning**
Definition:	**Participation in education and training of those aged 25 to 64**
Data source:	**Eurostat: Labour Force Survey, 2001**
Related information:	**Early school leavers (18-25)**

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Quality Indicator Number 8

Indicator:	**Investment in Lifelong Learning**
Definition:	**Total public expenditure on education as a percentage of GDP**
Data source:	**Eurostat: Structural Indicator**

Quality Indicator Number 9

Indicator:	**Educators and Learning**
Definition:	**Percentage of teachers having received education and training during the previous four weeks**
Data source:	**Eurostat: Labour Force Survey, 2002**

Quality Indicator Number 10

Indicator:	**ICT in Learning**
Definition:	**Percentage of households who have Internet access at home**
Data source:	**Flash Eurobarometer 112, November 2001**

Quality Indicator Number 11

Indicator:	**Strategies of Lifelong Learning**
Definition:	**Member States' positions on developing lifelong learning strategies**
Data source:	**European Commission: Joint Employment Report, 2001**

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Quality Indicator Number 12

Indicator: **Coherence of Supply**

Quality Indicator Number 13

Indicator: **Counselling and Guidance**

Quality Indicator Number 14

Indicator: **Accreditation and Certification**

Quality Indicator Number 15

Indicator: **Quality Assurance**

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Annexe 3

List of Indicators used in the Field of Education and Training within Selected Community Initiatives

Co-Ordination of the Employment Policies: The Luxembourg Process

Indicators of Lifelong Learning Used in the Process of Employment Strategy[29]

Key indicators

- Investment expenditure on education in relation to GDP. *Source: Eurostat, UOE.*
- Participation rate in education and training. *Source: Eurostat, UOE.*
- Rate of early-school leavers. *Source: Eurostat, LFS.*
- Rate of Internet coverage in schools. *Source: Eurobarometer 2001 and "eEurope 2002 Benchmarking", Commission Staff Paper, SEC (2001) 1583/9-11-2001.*
- Share of teachers with IS literacy. *Source: Eurobarometer 2001 and "eEurope 2002 Benchmarking", Commission Staff Paper, SEC (2001) 1583/9-11-2001.*
- Share of employees participating in job-related training. *Source: Eurostat – CVTS2, reference year 1999.*

Context indicators

- Educational attainment rate of adult population. *Source: Eurostat: LFS.*
- Participation rate in education and training. *Source: Eurostat UOE.*
- Literacy proficiency rate of adult population. *Source: IALS, 1994-98, "Literacy in the Information Age", OECD and Statistics Canada, 2000.*
- Rate of student access to computers and to Internet. *Source: Benchmarking Report following up the "Strategies for Jobs in the IS", COM (2000) 48 National data.*
- Share of employees participating in job-related training. *Source: Eurostat: CTVS 1 and CVTS 2, reference years 1993 and 1999.*
- Average hours spent on training per employee. *Source: Eurostat: CVTS 2, reference year 1999.*
- Share of the workforce using computers for work. *Source: Eurobarometer Survey on ICT and Employment, Nov 2000, Oct 2001.*
- Rate of working population trained on job related ICT skills. *Source: Eurobarometer Survey on ICT and Employment, Nov 2000, Oct 2001.*

Communication from the Commission: "Structural Indicators" COM (2001) 619 final

- Total new science and technology doctorates per 1000 of population aged 25 to 34 years. *Source: Eurostat, UOE.*
- Total public expenditure on education as a percentage of GDP. *Source: Joint Eurostat, UOE.*

[29] Directorate-General: Employment and Social Affairs IND/30/040302: Review of Lifelong Learning Indicators

- Percentage of population, aged 25-64, participating in education and training. *Source: Eurostat: Labour Force Survey.*
- Share of the population aged 18-24 with only lower secondary education and not in education or training. *Source: Eurostat: Labour Force Survey.*

Communication from the Commission: "Commission's Action Plan For Skills And Mobility" COM (2002) 72

- Levels of occupational mobility and labour turnover. *Source: Eurostat: Labour Force Survey.*
- Impact of educational levels on employment and unemployment. *Source: Eurostat: Labour Force Survey.*
- Employment growth in high education sectors. *Source: Eurostat: Labour Force Survey*
- Education attainment levels. *Source: Eurostat: Labour Force Survey.*
- Early school leavers. *Source: Eurostat: Labour Force Survey.*
- Basic skills (literacy and numeracy): Student performance on the combined reading, scientific and mathematical literacy scales and national income. *Source: OECD/Knowledge and Skills for Life, First result from PISA 2000.*
- Participation of adult workers in training. *Source: Eurostat: Labour Force Survey.*
- Shortages in ICT occupations and sectors. *Source: IDC/EITO 2001 study.*
- Demographic developments: change of working age population and composition by age groups. *Source: Eurostat-Demographic database: Population by sex and age on 1/1/2000 (for 2000), Eurostat-BASELINE scenario (for options).*
- Levels of geographical mobility. *Source: Eurostat: Labour Force Survey.*
- Commuting mobility. *Source: Eurostat: Labour Force Survey.*
- High employment regions and skills needs. *Source: Eurostat: Labour Force Survey and Demographics Projections BASELINE scenario.*
- Foreign language teaching. *Source: Eurostat.*
- Migration. *Source: Eurostat.*

Detailed Work programme on the Follow-Up of the Objectives of Education And Training Systems in Europe

Indicative List of Indicators to be used within The Open Method of Co-Ordination

- Shortage/surplus of qualified teachers and trainers on the labour market.
- Progression in number of applicants for training programmes (teachers and trainers).
- Percentage of teachers who follow continuous professional training.
- People completing secondary education. *Source : Eurostat, UOE*
- Continuous training of teachers in areas of emerging skills needs.
- Literacy attainment levels. *Source: OECD 2001.*
- Numeracy/Mathematics attainment levels. *Source: OECD 2001.*
- Learning to learn attainment levels.
- Percentage of adults with less than upper secondary education who have participated in any form of adult education or training, by age group.
- Percentage of teachers that have been trained in ICT use in schools.
- Percentage of pupils and students using ICT in their studies.

- Percentage of learning sessions in teaching and training institutions in which ICT is used.
- Increase in number of entries into mathematics, science and technology courses (upper secondary advanced levels and tertiary levels, by gender).
- Increase of graduates in mathematics, science and technology courses, by gender.
- Increase in number of scientists and engineers in society, by gender.
- Increase in number of qualified teachers in MST (secondary level).
- Increase in per capita investment in human resources.
- Percentage of population between 25 and 64 participating in education and training. *Source: Eurostat: Labour Force Survey.*
- Percentage of working time spent by employees on training per age groups.
- Participation in tertiary education.
- Proportion of the population aged 18-24 with only lower secondary education and not in education or training. *Source: Eurostat: Labour Force Survey.*
- Percentage of students and trainees in initial training benefiting from placement agreements (éducation en alterance).
- Proportion of self-employed in various sectors of knowledge economy (particularly age group 25-35).
- Percentage of education and training institutions providing counselling and guidance for setting up business.
- Percentage of pupils and students who reach a level of proficiency in two foreign languages.
- Percentage of language teachers having participated in initial training or in-service training courses involving mobility providing direct contact with the language/culture they teach.
- Proportion of national students and trainees carrying out part of their studies in another EU or third country.
- Proportion of teachers, researches and academics from other EU countries employed at different educational levels.
- Number and distribution of EU and non-EU students and trainees in education and training.
- Proportion of undergraduate and postgraduate students continuing their studies in another EU or third country.
- Percentage of graduates obtaining joint degrees in Europe.
- Percentage of students and trainees within ECTS or EUROPASS and/or obtaining Diploma/Certificate Supplement.

Annexe 4

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